THE BUILDER

A Journal for the Architect & Constructor

DECEMBER 21, 1928 — No. 4481

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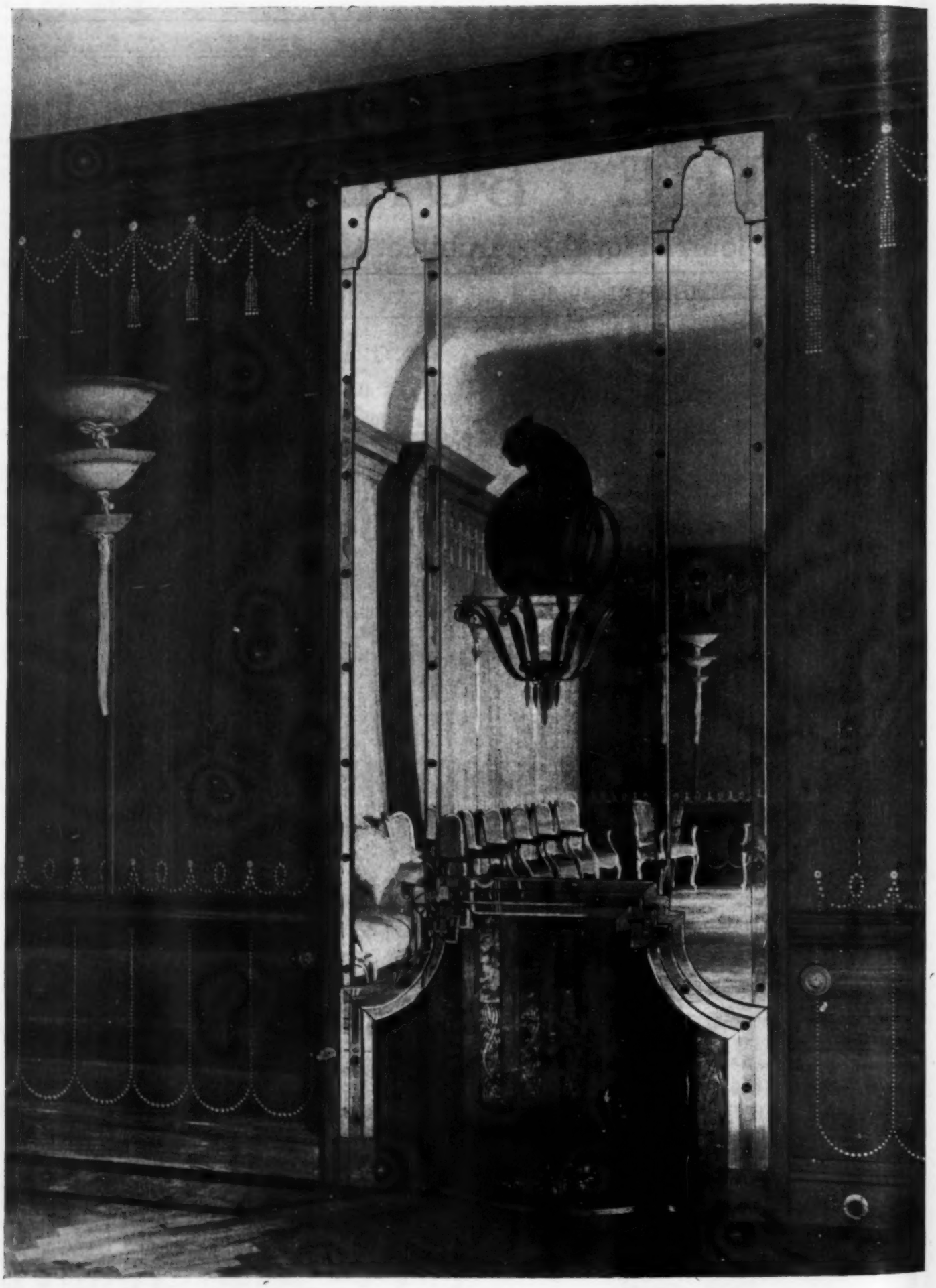
86TH YEAR



Electric Fireplace at the Savoy Hotel in two-coloured mirror glass, with a steel interior.

Designed by Mr. Basil Ionides.

THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

VOL. CXXXV. No. 4481. DECEMBER 21, 1928

ROAD CHARGES

THE admirable response to the acute housing problem with which we were faced immediately after the war, has not been sufficient to make anything that affects the progress of building a matter of small concern to the public. The desire to live in one's own house, and to have that house just as one would wish it to be, is a growing one; and, adding as it does to the sense of responsibility of the masses, it is a tendency to be encouraged and nurtured by every legitimate means possible. The high cost of building is an initial factor that has stopped many a man of good intentions from realising his ambitions in this direction, and slow building also has often turned the scale in favour of buying as against building. Land values have also soared above all pre-war dreams; and last, but not least, comes that formidable bill for road charges that hangs over the head of property owners who are unfortunate enough to have entered into possession before these things have been settled up. In some cases it becomes a very heavy charge, approaching in value the actual cost of the land; and the fact that in districts not far apart such charges can vary by a substantial amount, seems to show either that false economies have been made in one district, or that extravagance has been exercised in others; and in either case there is room for discontent with a system that is so little exact in adjustment.

One of the greatest hardships falls upon those who have had established property alongside which a new road has been laid down. A new side frontage is thus formed of considerable length, often rather to the disadvantage than otherwise of the original property. Yet the owner is called upon, in many cases, to meet a fresh and entirely unanticipated charge upon his property, and generally a heavier one than the narrower frontagers have to pay, for a road upon which they depend entirely for the service of their properties. In other cases the frontagers are called upon to pay for a system of road making, curbing and channelling that might very well be simplified without damage to the neighbourhood. These are more or less indeterminate factors which make many would-be property owners hold their hand in fear of the unknown, and a correspondent writing to us may be pardoned for saying "it is a very doubtful point whether the money that has been spent in subsidising the cost of building might not have been taken out of the taxpayers' and ratepayers' pockets in more seemly fashion had such relief been applied to the making of roads which eventually become at the service of all."

Viewing the matter from an elementary point of view, the builder of a house requires no more substantial road, as far as he is concerned, than he would lay down for a private carriage drive. If his frontage were used only for himself, his friends, and tradesmen, a very light road would be required. But it would not be quite sound to say that his commitments should be limited to the cost of such a road, since he has the privilege of passing over his neighbours' frontages to reach his own, and they over his, so that each section of the road has very much more wear and tear from this cause alone than a private carriage drive would have. But there is still other traffic using most of these roads, which has no connection with the frontagers, and in many cases, roads in estates that have been taken over by the local authority have become thoroughfares and short cuts from one part of the district to another. In such cases either the road soon becomes worn to a state which the frontagers have every reason to object to, or it is laid down in the first place of sufficient substance to withstand this outside wear. It is true that such frontagers exercise similar privileges over other roads in the district for which they have had to pay nothing beyond the ordinary rate, but in such respect they are no different from the other ratepayers, and it does seem questionable that so much of the cost of the developing a district should fall upon one section, while the bulk of the ratepayers who have paid road charges, if any, many years ago at pre-war rates, reap much of the benefit. The whole object of local government should be to do works for the public benefit by joint effort, more economically than individuals could do it for themselves; so that there is something radically wrong when the cost of works becomes a burden too heavy for the individual's pocket.

Something of the principle we would stress has already been recognised. Arterial roads are clearly thoroughfares for the nation, and concern the nation as much as the districts through which they pass. Their national use becomes more and more dominant as road transport develops. Parliament has recognised this fact by grants for such works whereby only a proportion remains to be met by the various local authorities concerned. In a more parochial field, frontagers upon an ancient highway have long been exempt from charges for its repair, maintenance or other development; so making recognition of the use to which it is put by others than the actual frontagers. But it would seem that in common equity the same principle needs to be more widely extended. It is fair that the builder of a house should contribute directly towards the cost of the road that has made the house accessible, but would it not be equally fair that the district that benefits by the opening up of new common means of access to and from different parts of the district, should also contribute directly towards the cost of construction? We feel sure that if some fair way of apportioning these charges between the frontagers and the general ratepayers could be devised, building generally would receive a distinct impetus, long after all purely artificial subsidies had been abandoned.

One other aspect is deserving of consideration. Speaking broadly, for their own individual use, frontagers require much the same character of road. It would seem not unreasonable, therefore, if a standard charge per foot of frontage were laid down throughout the country, so that purchasers of property should know exactly with what they have to contend before they are committed. Naturally the cost of making the various roads will vary with local conditions and the uses to which such roads are likely to be put in the future. But such variations are the concern of the districts rather than of the individuals, and it would not be unjust in average cases to call upon the general ratepayers to meet the differences. At present they appear to be entirely at the mercy of the whims of the local authority, whose ideas as to suitable road construction may be unduly extravagant.

We are reminded of the unsatisfactory state of affairs by the reports from a district in the north of England that have appeared recently in the daily Press. We should be foolish to accept the facts exactly as laid down, for British sense of fairplay has a way of adjusting legal anomalies, when insufferable hardship occurs; but the facts as reported are legal possibilities which should not exist, and the sooner the law is amended to exclude them, the better for the nation. We make our suggestion in the hope that it may be a contribution to the solution of the building problem. It is still considered necessary to subsidise the cost of building small properties, and it will probably be long before the trade will be left to stand on its own legs. It therefore becomes necessary to see how best the community can contribute, with fairness to all, to what has really become almost a public service.

NOTES

The Abbey Sacristy. IN view of the suggestion put forward in our columns on November 23—that the ancient Chapter House should be called into use *vice* proposed new Sacristy—it is interesting to note that Sir Philip Pilditch is to put to Sir Vivian Henderson, who represents the First Commissioner of Works in the House of Commons, the following question:—"Whether in view of the fears that have been widely expressed that the Sacristy proposed to be built on the north side of Westminster Abbey will disfigure that side of the Abbey Church, that it will occupy an open space long enjoyed by the public, and that to provide access to it from within the church certain monuments of considerable value may have to be disturbed, the Government will offer the Dean and Chapter the use of the Chapter House for the storage and display of their valuable old and modern vestments and plate, and as a place where the clergy and others may vest or robe themselves on occasions of special importance, seeing that the magnificent floor of the Chapter House can be protected during such use." We are given to understand that there is no good reason why the Chapter House should not be reinvested in the Abbey to whom originally it belonged. We may hope that the Office of Works may take the same view.

The Shaftesbury Fountain. WHEN the Piccadilly new station was opened it was obvious that the replacement of the Shaftesbury Fountain was the next important matter for consideration. The exact site requires careful thought, and Mr. John Murray has very opportunely put forward a plan and view which he suggests might be adopted for approval. It will be seen from our illustrations that the position thus suggested would give clear views of the fountain from the various thoroughfares, though the fountain cannot be placed in its final position until the further development of Piccadilly-circus (or place) which will probably be delayed nearly forty years, till various leases have fallen in. An important and valuable suggestion made by Mr. Murray is to raise the memorial some two feet higher than it was before, and also to provide a space of grass round the fountain, bordered by a low stone wall. It is obvious that the effect of the fountain would be greatly enhanced by this widening of its base, and it would probably be quite practicable to have the fountain playing under these altered conditions.

The Work of the Silversmith. IN a report on the training of the silversmith, published by the British Institute of Industrial Art, we note that the silversmiths' industry is not at present attracting recruits of good quality. The human material, both boys and journeymen, of which the Silversmiths' classes in the technical art schools are at present composed, is said to be distinctly inferior to that of the cabinet making, printing, or other trade classes, indicating that the silversmiths' trade does not at present attract the best lads. There is, of course, the same difficulty as is found in other developments of boys' training in a wise combination of theory and practice. The difficulty is, of course, partly a financial one, for if the work in the schools interferes with the economic value of the embryo workman, some means has to be found of bridging the difficulty. We have seen that in architectural work a too exclusive concern with the work of the schools is apt to lower the capacity for efficient practical work. Important as is the work in schools and classes, it should go hand-in-hand with the practical work in office or workshop if we are to get the best results. Though we often see very creditable work in the silversmiths' craft, it cannot be said that it shows as much quality and progress as we could wish.

Local Government Bill and Town Planning. ARCHITECTS and builders are affected in many respects by the provisions of the Local Government Bill. In so comprehensive a measure it must be expected that many aspects will be overlooked. Builders should, however, pay special attention to the clauses in the Bill dealing with town

Recess at the Savoy Hotel. DESIGNED BY MR. BASIL IONIDES.

[The niche is in gold and pink mirror, the large mirror of white and grey mirrored glass; the lanterns are in coloured glass.

planning. These are Clauses 33 to 38, and give power to County Councils to act jointly with other local authorities in the preparation or adoption of a town planning scheme. This part of the Bill not only makes the County Council the supreme road authority, outside the County Boroughs, but also enables County Councils to take a far more prominent part than in the past in the work of the sixty Joint Town Planning Committees which have already been established in this country. If these new clauses are to work without friction, the members and officials of County Councils will have to pay far more attention to the problems of estate development, although no doubt plans for changes on estates will continue to be first presented to local committees. But there will have to be a general framework or scheme for the county into which the individual plan can be adapted. Roads classified or not will be an important item in this general framework. There will thus have to be not only concentration of authority, but decentralisation of administration, if the greatly extended powers given to County Councils are not to lead to delay and raise unnecessary difficulties in the development of estates.

The Planning of Greater Paris. MR. MONTAGU HARRIS, the Secretary of the Greater London Joint Town Planning Committee, has been in consultation with some of the officials responsible for the work of a similar organisation which has been set up this year in order to plan greater Paris. The Greater London Committee comprises about 2,000 square miles. Dr. Raymond Unwin, who will commence to prepare a regional plan on his retirement from his present position of Chief Architect of the Ministry of Health at the end of this month, will be assisted by an Advisory Committee, representative of the London County Council, the City Corporation, and of all the Local Authorities within a twenty-five mile radius of Charing Cross. He will also have the advantage of the work already done by the Joint Town Planning Committee operating within the region, and of the example of the pioneer work already achieved by the Manchester and District Joint Advisory Town Planning Committee. The Paris organisation will be responsible for the departments of the Seine, Seine et Oise, and Seine et Marne. The functions of the Committee are somewhat wider than those of the London Committee. The Paris Committee consists of 39 members, including all the prefects within the region, the presidents of the Municipal Council of Paris, and of the Council General of the Seine, a number of mayors and officials of various Government Departments. It is attached to the Ministry of the Interior and consists of 39 members. Some five sub-committees have already been set up to study such problems as the future planning of the fortification zone, the second line forts, and to control building estates; French and foreign legislation; departmental finance and movement of population; public services; and constructions and dwellings.

Entrance to the Savoy Hotel. Designed by MR. BASIL IONIDES.

[Showing acided glasswork; the top portion picked out in colour; the lower portion in two tones of aciding.]

Permanence in Building and Colour Effect. SOME pertinent observations have just been made by Sir Owen Williams on the relative importance of permanence in buildings. He contends that for a great many commercial purposes we need not aim at any great durability in our buildings, as their usefulness is apt to diminish after only a moderate lapse of time. Besides this, Sir Owen insists on the effect of colour values in the painting of buildings. He says, "A certain shade of blue will diminish the effect of the sun in increasing the temperature of steelwork by several degrees. This may not at first appear important until we remember that the effect of temperature on certain types of steel bridges, particularly the arches, gives rise to stresses and strains far greater than those due to even the heaviest modern traffic. It is, therefore, a thought of some importance that by changing the colour of the paint of a bridge you may give it the additional strength required for modern traffic and avoid the expense of its reconstruction."

Gothic or Classic. THE other day we were struck by an analogy borrowed from architecture. "America while refusing to become a pillar of the League (the League of Nations) has made herself a substantial flying buttress." To the student of architecture, versed in the organic development of forces, this might appear to be either a very subtle analogy or an anachronism. At all events, it does appear that the League of Nations, as a social structure, possesses some similarity to the involved system of stress and counter stress that is of the essence of Gothic architecture.

GENERAL NEWS

Professional Announcements.

Messrs. Leonard Stokes & Drysdale have removed to more convenient offices at 102, Great Russell-street, W.C.1. Tel. : Museum 5071.

Mr. Reginald A. J. Pye, architectural assistant to the Dagenham U.D.C., has been appointed to fill the post of architectural assistant to the Education Department of the Norfolk C C.

Mr. Henry A. Mackmin, F.S.I., chartered quantity surveyor, Hon. Secretary of the Quantity Surveyors' Surrey Branch of the Surveyor's Institution, has removed from Thornton Heath to 18, Howard-road, Coulsdon Surrey.

Owing to continued ill-health, Mr. W. L. Lucas, F.R.I.B.A., is compelled to relinquish practice and is giving up his offices at 3, Buckingham-street, Westminster, before January 1, 1929. He hopes to be well enough to do a certain amount of consulting work from his private house, 51, South Audley-street, later on in the year.

Lincoln College, Oxford.

Mr. Edward Harkness, of New York, has given £5,000 towards the Lincoln College rebuilding scheme.

An Architect's Estate.

Mr. Harry Prince, A.R.I.B.A. (49), of Colehern-court, S.W., and Old-square, Lincoln's Inn, W.C. (net personalty £1,713) left £2,467.

British Institution Scholarship.

We are asked to state that Mr. Arthur L. Hall, whose winning design for the British Institution Scholarship in Architecture was illustrated in our issue for December 7, is a student of the Royal Academy School of Architecture as well as of the Polytechnic.

Proposed New Schools, Shrewsbury.

Shrewsbury Town Council has passed plans for senior boys' and girls' schools to be erected on the racecourse at a cost of £32,000. The schools will be of an open-air type.

The London Society.

A lecture will be given before the members of the London Society in the Hall of the Royal Society of Arts, 18, John-street, Adelphi, W.C.2, to-night (Friday) at five o'clock, when Mr. H. W. Fincham, F.S.A., will read a paper on "The Order of St. John of Jerusalem and Its London Home." The chair will be taken by Colonel E. J. King, C.M.G., Knight of Justice and Librarian to the Order.

Children's Holiday Lectures.

Three informal talks, illustrated by lantern slides, will be given at the R.I.B.A. premises by Mr. and Mrs. C. H. B. Quennell for the benefit of children during the forthcoming holidays. Friday, December 28, Monday, December 31, and Friday, January 4, have been selected, and the lecture will be given on each day at 3.30 p.m. The lectures—tickets for which may be obtained free from the R.I.B.A.—will deal with "The Architectural Background of the Iliad and Odyssey."

Scottish Architects' War Memorial.

At a special meeting of the Edinburgh Architectural Association, held at 15, Rutland-square, Edinburgh, the war memorial in honoured memory of the 19 members who fell in the Great War was unveiled by Lady Lorimer and dedicated by the Rev. G. F. MacLeod, M.C., B.A., of St. Cuthbert's Parish Church, Edinburgh. The memorial, which takes the form of a beautiful engraved panel in the chambers of the Association, was designed by Mr. J. R. M'Kay, A.R.I.B.A., Edinburgh.

The Mersey Tunnel, Third Contract.

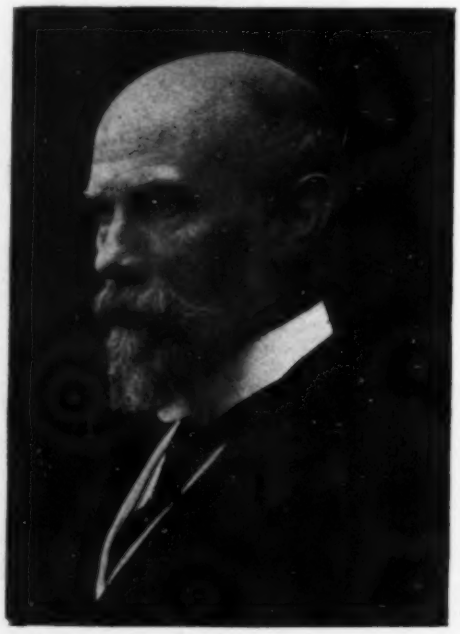
The Mersey Tunnel Committee have accepted the tender of Sir Robert McAlpine & Sons, of Pall Mall, London, S.W., for contract No. 3 of the new Mersey Tunnel scheme. The contract, it is stated, amounts to between £700,000 and £800,000, and covers the construction of the full-sized tunnels on the Birkenhead side of the river from the Morpeth branch dock shaft to the portals at Albion-street and Rendel-street respectively.

Proposed New Town Hall, Southend.

By 26 votes to 6, Southend Town Council at a special meeting on Tuesday adopted the ground on which the High School for Boys stands at Victoria-circus and the adjoining land belonging to the Corporation as the site for the erection of a Town Hall and Municipal Offices. The Council had before them two schemes by Professor Adshead. The first, which provided for the incorporation of the High School for Boys, was estimated to cost £358,560; and the cost of the other, which provided for the clearing of the site, was put at £389,000.

Royal Society of British Sculptors.

The Gold Medal "for Distinguished Services to Sculpture" was unanimously awarded to Mr. W. Reynolds-Stephens at a largely attended general meeting of the Society held on December 12. This Medal, upon the lines of that of the R.I.B.A. and



MR. W. REYNOLDS-STEPHENS, R.B.S.

those of the other great professions, was founded in 1923 and is the highest distinction which British sculptors can award. The previous recipients of this award have been the late Sir Hamo Thornycroft and Mr. Alfred Gilbert.

Vibration by Heavy Cars.

Mr. Erskine, in the House of Commons, asked the Minister of Transport whether he was aware that in many parts of London houses were being badly damaged by the vibration of heavy road traffic; and, in view of the seriousness of the problem, would he take steps, in conjunction with the Home Office or otherwise, to bring in legislation to meet the demands of householders and property owners.

Col. Ashley said there was some reason to hope that the vibrations caused by heavy traffic would decrease in future, owing to the improvements which were continually being made in road surfaces and in the design and construction of heavy vehicles. He did not think that much could be done by legislation towards a solution of this problem, but steps had recently been taken to encourage the use of pneumatic tyres by a substantial rebate of taxation in respect of heavy motor vehicles so fitted, and by an increase of the speeds permitted to them.

COMPETITION NEWS

Infants' and Junior School, Chesterfield.

The Chesterfield Education Committee invite architects having a place of business within the County of Derbyshire to compete for the proposed new infants' and junior school on the Boythorpe Estate. A deposit of £2 2s. is required for the site plan and conditions of competition, which deposit will be returned on receipt of a bona-fide design, or, if the applicant declines to compete, on the return of the plan and conditions within one month after the receipt of replies to competition queries. Copies of the plan and conditions of competition may be obtained from the Education Officer, Education Offices, Foljambe-road, Chesterfield.

£1,500 Concrete House Competition.

The awards in this competition are given on page 1014, together with extracts from the assessor's report. The designs are illustrated in this issue.

COMPETITIONS OPEN.

	Particulars published in "Builder."	Sending in date.
Proposed Municipal Buildings and Market Hall, for Ellesmere Port and Whitley U.D.C. Premiums of £100, £75, and £50. Mr. T. R. Milburn, assessor. Conditions from Mr. T. W. Francis, clerk, Ellesmere Port. Dep. £1 1s.	Oct. 5	—
Council School at Charlemont, for the West Bromwich Local Education Committee. Mr. H. T. Buckland, F.R.I.B.A., Assessor. Premiums: £150, £100, £50. Mr. A. Lewis, Education Offices, Highfields, West Bromwich. Dep. £1 1s.	August 17	Dec. 31
Wyggeston Grammar School for Boys, for Leicester E.C. Sir Felix Clay, Bt., F.R.I.B.A., Assessor. Premiums: £100, £75, £50. Mr. F. P. Armitage, Town Hall, Leicester. Dep. £2 2s.	August 17	1929 Jan. 11
R.I.B.A. Competition for hypothetical Design of a Garage in the theatre area of London. First premium £350, second £140. Messrs. W. J. Tapper, P.R.I.B.A.; Robert Atkinson, F.R.I.B.A.; T. P. Bennett, F.R.I.B.A.; W. Rootes; and J. E. Forbes, will adjudicate. Apply, 9, Conduit-street, W.1. Some recent garages were illustrater in the May-June issue of ARCHITECTURE	August 24	—
Proposed art gallery at Christchurch, N.Z., for the City Council, to cost £25,000. Premiums of £100 to each of three designs selected from entrants. Winner as architect. Mr. S. Hurst-Seager, F.R.I.B.A., assessor. Conditions from High Commissioner for N.Z., Strand, W.C.	Sept. 7	Feb. 13
Columbus Memorial Lighthouse, Dominica, for the Pan-America Union. Ten designs selected will receive £400 each; eventual winner £2,000. Other premiums £1,500, £1,000, £500, and six of £200. Conditions from Mr. Albert Kelsey, Washington, D.C.	March 2 Sept. 14	
Hospital Centre, Edgbaston, Birmingham, for the Executive Board. Names to F. H. C. Wiltshire by January 1, when Board and Mr. H. Percy Adams, F.R.I.B.A., will select 12 to compete. Premiums awarded and winner as architect	Nov. 30	—
Memorial in Quito to Simon Bolivar for Sociedad Bolivariana. Memorial will cost £17,000 (approx.). Jury will be formed by Ecuador Minister in Paris. Details from Legation for Ecuador, 91, Avenue Wagram, Paris	Nov. 30	1929 Mar. 31

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Architecture, Nature and Magic.

SIR,—Being interested in the subject of these articles, written by Professor W. R. Lethaby, may I venture to add a few suggestions which may probably be acceptable in connection with the mystical side of so-called sun gates to sacred buildings found in the East? At the outset it must be understood that the mind of man is influenced by more than one principle. He has within his mentality an instinctive mind, a subconscious mind, an intellectual mind, an intuitive and spiritual mind. And in the present instance it is the influence of the intuitive and spiritual consciousness which is necessary to enlighten our understanding; cold intellect alone will not unravel the problem of matters spiritual or mystical. There is no doubt that ancient doorways to temples and all sacred buildings bore either an astronomical or a symbolical significance; an esoteric meaning encouraged by the priesthood. Astronomically, the late Sir J. Norman Lockyer has evolved a theory in relation to the orientation of temple and ritualistic buildings erected in Egypt and elsewhere. He found that the most important temples, when tested, had their major axis orientated to a definite celestial body. For instance, if the building were orientated to the solstice, at sunrise the beam of light would enter by the eastern doorway of the temple and flash into the darkened sanctuary, remain there for about two minutes, and then pass away. To the priests all such manifestations were for astronomical purposes, such as the correction of their calendar; to the populace assembled outside the building they were received with awe and reverence.

All temples were not, however, orientated to the rising or setting of the sun. Some were arranged axially to observe certain stars, or phases of the moon. This same phenomenon, it may be stated, occurred within the Holy of Holies of King Solomon's Temple, which was orientated to the equinoxes. On the critical day of the month the high priest stood within the holy place adorned with the twelve-jewelled breastplate and the Urim and Thumum, upon which the flash of the rising sun would shine with effulgent splendour. In modern times we unconsciously repeat this mystical phenomenon by placing lighted candles upon the altars in ritualistic edifices.

Before dealing with the mystical rendering of doorways, perhaps it will be acceptable to interpret the esoteric meaning of the visions of Jacob, and the author of the Book of Enoch. Jacob, seeing the angels ascending and descending the ladder stretching from the gates of heaven, in a vision, may be interpreted as spiritual aspirations ascending from himself, whilst the angels descending may be likened unto divine messages sent from the Heavenly Father. Concerning the vision of the author of the Book of Enoch, it is first necessary to know that the north symbolises, spiritually, the purely intellectual thought; mentality is always cold; the east is representative of spiritual thought-faith; the south stands for emotional thought, whilst the west is typical of materialistic thought.

Mind or thought, it has been stated, is the most powerful force existing in the universe. Mind is behind everything created; behind the electron and even the apparently inert crystals of a jewel; there is nothing dead in the universe. The author of Enoch saw three gates of Heaven, and the celestial stars come forth. The three gates represent mind, soul, and spirit, and the stars are figurative of the types of souls to be borne upon the earth, whilst the windows on the right and on the left represent the souls, probably, good and evil, existing in the spiritual world. The eyes are the windows of the soul; "Man's soul dwells like a star apart."

Regarding the quotation from Prof. Elliot Smith, wherein it is stated that symbolic gateways represent the means of communication between the living and the dead, and that the latter acquired a re-birth into a new form of existence, a few words of explanation are necessary. These gateways, we know, are more connected with the living than with the dead. Symbolically they are of a highly spiritual order, and are, figuratively, to represent, on earth, a soulic gateway, or threshold, through which a soul or consciousness, on its journey, must pass to attain to full spiritual enlightenment in this world. Language, therefore, fails adequately to portray to the materialistic mind the inner and divine experience enjoyed by the quickened soul.

Not until the soul of a living being has attained to a certain state of development, and has endured physical suffering, is he led to the threshold of the gateway leading to the "Hall of Learning." In a mystical sense the "Hall of Learning" is guarded by the "keepers of the gate," who demand of the disciple certain qualifications of spiritual attainment before he may be admitted as a neophyte. Once having been admitted, the neophyte becomes a helper of the race. "In the far spaces of time all will pass those gates," when the doors of the soul are opened.

In all ancient lodges of Brotherhood, mystical, spiritual philosophy similar to the foregoing was inculcated to its members by adepts, and even in modern times this ancient teaching is continued in the East. In the world to-day there are secret societies wherein a similar philosophy is taught by means of ritual and symbols. The esoteric meaning of these has been lost, and is therefore unknown to the majority of its adherents, but, in a materialistic way, they do great good by supporting charity and the teaching of brotherly love.

The esoteric meaning existing behind the thought of erecting imposing doorways to the entrance of sacred buildings, some of which have sculptured figures, or winged animals, represented as guardians of the threshold, will now be understood. These guardians appear in various forms in different countries. For example, in the tomb of Tut-ankh-Amen there were found carved human figures armed with a club, to guard the blocked-up doorway. And, in a Biblical way, we have the flaming sword of the Garden of Eden, which turned every way to guard the tree of life.

JOHN HALL.

Sunderland.

"THE BUILDER" DEBATE

XIII.—SHOULD ARCHITECTS ADVERTISE?

Sir,—"Negative" has left so many gaps in his armour that it is hardly necessary to point them out. He says that "the average building owner knows nothing and cares less about art in daily life." This surely, and not professional reticence, is the real root cause of the fact that (to use "Negative's" own words) the profession of architecture threatens to be gradually ousted from its legitimate place in the scheme of national service. For exactly the same cause the cinema industry threatens to become a futility, if it has not done so already; and for exactly the same cause revue draws its thousands for every ten that Shaw can attract. This is not a disease that advertisement can attack—in fact, advertisement does much to perpetuate the evil. Disinterested propaganda can try its best, and content itself with casting its bread upon the waters.

Does "Negative" really see no difference between disinterested propaganda and advertisement? One would have thought that the difference between the two simply shouts at one. If it is indeed necessary to write it down, it is that advertisement, either individual or corporate, can never be disinterested. Have you ever seen one like this: "Smith and Co., Outfitters. Our goods are excellent, but those of Jones and Co., two doors up, are much better"? If you have, then I suppose I must amend my views. If not, I must continue to assume that when Smith advertises he is interested in the success of his business.

And why is "Negative" so anxious to turn the profession into a trade? He professes to see here, also, no essential difference between trade and profession. I simply do not believe him. I am perfectly certain that if a doctor in his town were to insert an advertisement in the local paper, calling attention to his ability, that doctor would be the last man he would call in if he were ill. I am equally certain that, if a solicitor in his town inserted a similar advertisement declaring his superior rectitude, that solicitor would be the last man to whom he would give power of attorney.

I am not sure whether "Negative" thinks that the architect should endeavour to bring art into the life of the people or not; in fact, it is clear that he does not know it himself. In paragraph 1 he declares that he is keen on professional dignity so long as "it does not hinder the profession or its members from exercising to the full any legitimate means of bringing art into the daily life of the community." In paragraph 3 he refers to exactly the same words ("bringing art into the daily life of the community") as "just the sort of claptrap that deters the building public from employing an architect." The only difference seems to be that in the first case the words are used by "Negative," and in the second they are quoted from my letter. Apparently "Negative" has taken a dislike to me and regards me in the light of the unfortunate princess in the story who was condemned to deliver a toad from her mouth for every word uttered, while her more favoured negative sister produced jewels with a similar effort.

"Negative" gives as a reason for the profession advertising that "we ought to help the public to distinguish between an architect and a wholesale house provider." While we are on the point, I should like to ask why, if there is no difference between our profession and a trade, we should be called upon to deny ourselves the privilege of opening a wholesale department? Actually, of course, good sense tells us that by abstaining from advertisement we *are* actually showing the public that there is a difference between us and the wholesale house provider, and that any attempt to copy the methods of Messrs. Block and Blank is simply telling the public that there is really no difference between us at all other than a trade rivalry.

POSITIVE.

Restoration at Landulph Church, Cornwall.

The beautiful old oak screen in Landulph Church, Cornwall, which is a good example of fourteenth-century work, has now been restored and re-erected. It proved a difficult task to use the old oak with the new on account of the bad state the wood had got into, but it is now hardly possible to see where the joins are made, as the new wood has all been toned to match. This interesting work was carried out, under the architectural direction of the late Mr. Fellowes Prynne, by Miss Pinwill, of Plymouth.

H

MODERN GLASS.

At a meeting of the R.I.B.A., held at 9, Conduit-street on Monday evening last (Mr. Maurice E. Webb, Vice-President, in the chair), a paper on this subject was read by Mr. Basil Ionides. France, said the lecturer, had been the leader in the more modern forms of glass work, though really there was practically no work that we could not do over here. It was expensive to make the moulds for cast glass, and so there had not been much enterprise in this line in England, though on the Continent many delightful figures and decorations had been done. All sand-blasting, etching, aciding, and engraving, however, could be as well done over here as anywhere else, and never had glass been better, more varied, or easier to get than it was now. We had often heard people complain of the cost of glass. There was really no reason for this, as it was a finished article and had no upkeep charges attached to it. So many people would agree to work that appeared cheap for the fundamental part, but which would require many ornamentations before it was complete. Glass decoration was very complete in itself, and did not need embellishments. It was also very amenable, and might be coloured in all and various shades. It did not fade.

One might bend glass into all sorts of curves for windows and other uses, but a double bend seemed to be a great difficulty, and, of course, too sharp a turn was impossible. Good decorative effects could be made by the silvering of sharply bent glass, as this gave pretty distortions and plays of light. For niches, cornices, and such places this was very useful, but slightly bent mirror glass on the eye level was most distracting, as it merely made funny reflections. However, bent glass acided was one of the best cornices for lighting effects, and was quite cheap.

Having described various kinds of glass, such as white rolled glass, flashed glass, light-increasing glass, fireproof glass, Vita glass, stoved glass, and glass compositions, the lecturer said there were various ways of decorating on glass. The most expensive way of making a pattern was engraving. There were very few workers at this art, and it was extremely laborious, as the glass had to be held in the hand against the wheel. The first cutting was done with an emery wheel, and after that it was polished with copper and brass wheels. These wheels were small and rapidly revolving. The great limitation of this work was the smallness of the sheets of glass that could be worked, but the results were of the most brilliant. Then there was brilliant cutting. This was possible on larger sheets up to about 6 ft. by 8 ft., which were slung up and counterbalanced. The glass was pressed against stone wheels, which did the first deep cutting, and then it was polished with wood wheels. These were generally willow wood, and were worked with putty powder or rouge.

Sand blasting was useful for designs that were like a stencil, but unless after treated to give a varying surface, it was a little monotonous. The part not to be done was covered with prepared glued paper, and then the blast pressure of sand was put on to the rest to the depth required. Embossing with acid or aciding was done with acids which the workers called white acid, French acid and fluoric acid, and a great many different textures could be got with these by using them in varying strengths. By re-application, quite a considerable depth could be got. The process was to cover the parts not to be done with a tallow solution, and then apply the acid. This gave a single texture result. Another application of tallow could then be put so that other portions received treatment to give relief to that already done and so on, until the design was fully illustrated. Etching was a very cheap process, which glass workers would not seriously consider, and so it was relegated to the engraving of cheap patterns and initials on mugs at exhibitions.

Bevelling was the working on glass that was more done than any other, and more badly done than any other. Since the war there had been a difficulty about the willow wood for finishing bevelling, but the situation was better now. The plates to be bevelled were worked horizontally first with an iron wheel working with sand. Then it was worked with stone and lastly with willow wood and putty powder or rouge, and it was in this last process that the faults appeared and a certain "ropiness" turned up. This should be looked out for, as one did not get it in the good old work.

The aciding of glass to make it frosted was well enough known, but it was not realised as a rule that there were different varieties of aciding that one might have done on plain plate glass. It could be done on any glass, though on any but the plainer sorts it lost most of the design. Very good patterns might be done on white rolled glass acided, and part, perhaps, picked out in black, gilding, or in colours, but only in black if light was to shine through it.

Mirrored glass could be very varied and silvering could back all glasses from plain sheet and plate glass to coloured cathedral acided. The method of silvering was as follows. The glass to be silvered was laid perfectly horizontal on a flat tank, warm, and felt coloured. It was then cleaned with ammonia and distilled water, and after that the solution of nitrate of silver was poured on so carefully that it lay on the surface and did not run over the edges. This liquid deposited the silver on the back of the glass and the liquid portion was poured off. The back was then varnished and treated with metal; after this it should be backed. This could be done by special paint, or by backing it with rubber solution, which was a protection against damp or steam. The general effect of the silvering would be very dependent on the quality of the glass, and for good mirrors, plate glass of a good white quality should be used, and it should be without flaws, as these gave distortion. This distortion might also occur if a large mirror was not properly fixed, as the flexible quality of glass would allow it to bulge or sag and give bad reflections. It was not difficult to fix a fair-sized mirror at the top and the bottom. There should be middle fixing as well to stop the curving. The silvering of mirrors could be varied in tone from bright light silver to a deep grey black.

Besides the silvering of glass, one could have glass gilded on the back. This was not an easy process for large surfaces, as it had to be done with gold leaf, which was put on with size, and was apt to have marks showing. It was, however, invaluable where a sunlight effect was desired, and was lovely on table tops and window sills. The gilding of the back of glass could be most effectively done on acided or sand-blasted glass, and any pattern that there was could be emphasised by the use of different golds for different degrees of aciding.

If one desired a good piece mirror, one should specify that all the plates be cut from one sheet, as the quality and tone of different sheets varied considerably. The patera for fixing piece mirrors were best of cut glass with mirrored backs, but there was a cheaper form made of cast glass.

Everyone knew the blue borders that were to be found round old mirrors and round modern copies. These borders could be done in almost any colour; not only could they be made in coloured glass silvered on the back, but also there was a cheaper form of coloured foil backing which gave a similar result, but, of course, not so good. This mirror bordering could be used to edge other panels than mirror, and one might even make effective picture frames of it, especially if one had two or three strips superimposed and decorated with metal acanthus leaves to cover the fixing screws. These acanthus leaves might well curve down over the severed strips and across the corners. These frames would only suit a strong picture, but they were invaluable for notice boards in shops and hotels.

White was the most popular colour for lay lights to-day, and very lovely some of them were; also, to-day, electric light being available to put above them at night, they were not a blot after dark, as the old ones used to be. The secret of a successful lay light was the tone of colour, and he thought this should always be light and quiet. A lay light should never be strident or restless, but at the same time it should be warm-looking, as, being placed where sunlight seldom reached, it had to supply its own. All forms of acid glass were most useful. One could not see through it, and it had just that opaqueness that was needed. Aciding softened the colours of glass without in any way spoiling it, and as long as the acid side was downwards it was easy to keep clean. When fixing acid glass with putty it should be rubbed with raw potato to keep the oil of the putty from spreading on to the glass: it was the starch that did this.

The most noticeable phase of modern glass was that relating to electric-lighting fittings, because at last it was being realised that an adapted candle was not really the right way to present electric light. There were now many patterns of cast glass that were invaluable for this purpose, and these were being made chiefly in France. The greater number were cast and then acided or sand-blasted, and many of them were very lovely. The glass was usually cast in white, but very often a little colour was added to the sand-blasting or aciding to give a warm tone to the light. There were many stock patterns that might be used in various forms to build up decorations for lighting, and one could procure cornices, friezes, pilasters, and many architectural features at very reasonable figures, and which, when well arranged with lights behind, might be quite attractive. Care must be taken with these architectural features that the lighting globes did not show through the glass. The best way to overcome this, if there was room, was to have a white or slightly tinted backing, on to which the light was cast to reflect back through the glass, the light itself being concealed at the side of the glass. Casting was not the only way of getting relief on glass. One could get deep relief by sand-blasting and by aciding, but one could not get the modelling that casting gave. However, for lighting fixtures, sand-blasting and aciding would often provide the necessary ridges to "push up" the light.

Everyone knew the notices that were hung in shop windows and other places and which were made in plate-glass, with the lettering incised, and with a strip light so fastened at one side that the light could only escape through the glass. This it did invisibly until it reached the incised part or the edge, and

these it then illuminated. Very little use had yet been made of this quality of light in glass for decorative features, and yet it could be very lovely if a beautiful design was etched on.

There was a tremendous vogue, also, for lighting fittings of plain and opaque glass, mostly white; some of this was excellent, and with very little metal or leading made admirable light fittings; and as there were many grades of white to be got, one could vary them in the same fitting, thus giving relief to a design that otherwise would be a little monotonous. Coloured glasses could also be used, but very great discretion was needed with them, and only delicate tones were possible. However, most delightful semi-opaque glasses were to be found, some being flashed—*i.e.*, thinly coated with colour on an opal foundation. It was curious that one saw so many lantern electric-light fittings that were very well designed, but which were fitted with glass of a dreariness and distressing quality that killed them. There were such lovely glasses that might be used and yet such miserable ones were usually seen.

Discussion.

Mr. H. M. Fletcher, proposing a vote of thanks to the lecturer, said that the artistic developments in glass during the last five or six years were all produced from the "germs" in old glass. The speaker referred to old work, such as the mirrors in Hampton Court Palace, and the Venetian engraved mirrors, which, he said, had had great influence in the development of modern glass. With glass, it was possible to get brilliant effects very easily, and it thus was easy to fall into vulgarity. With regard to bevelling, what was important was not the size, but the angle of the bevel, which should be as near to flat as possible.

Mr. Norman Wilkinson, seconding the vote of thanks, referred to the celebrated Brighton Pavilion chandeliers which, he said, were extremely beautiful productions. At the Crystal Palace, too, there was a very remarkable glass fountain. The Crystal Palace itself had a great decorative quality, due to the plain glass panes set in certain ways.

Mr. Walter Gilbert said that the making of pressed glass was very difficult. Every mould has to be studied so as to get to know its idosyncrasies. One had to discover whether it would hold the heat long enough or whether a part was likely to get chilled before another. We should, he thought, look at the use of pressed glass with the eyes of Flaxman or Stevens, and get back to the dignity and restraint of the porcelain vase.

Sir Courtauld Thomson having spoken, Lt.-Col. H. P. Cart de Lafontaine suggested that something might be done to improve the illuminated sky signs. There was no reason why they should not be things of beauty instead of monstrosities.

Mr. Percy J. Waldram said it was not generally known that it was possible to avoid reflections in shop windows by means of a slight vertical sweep of the glass. No matter what the thickness of glass, the only loss of light occurred on the surfaces. There was practically no loss of light by etching except through the increase of surface. The greatest loss of light in the case of etched surfaces was on account of the dirt which was rapidly deposited on the etched surface of the glass and was impossible to clean.

Mr. Francis Hooper, having referred to the question of stained glass, Mr. Maurice E. Webb, in putting the vote of thanks to the meeting, pointed out that there was no reference in Mr. Ionides' paper to glass in windows. The point seemed to be that we were now concentrating on the use of glass as reflecting surfaces.

Mr. Ionides briefly replied.

SOCIETIES AND INSTITUTIONS

WESSEX SOCIETY OF ARCHITECTS.

The annual dinner of the Wessex Society of Architects was held on December 11 at the Royal West of England Academy, Bristol, the President of the Society, Mr. Thomas Overbury, being in the chair.

The Bishop of Bristol, proposing the toast of the "Royal Institute of British Architects," said what appeared to be needed was that some of the lesser architects should obtain some of the feeling that people always had when they went into an old-world village. If he had to train architects he would get them to read the history of the locality in which they had to work, and so absorb something of the poetry of the place. In that way the imagination would be quickened and they would introduce into the buildings they constructed the natural feelings of the place and not something really incongruous. It was to architects who loved their native land that they looked to prevent the despoiling of the beauties they valued.

Mr. Walter Tapper, A.R.A., responding, said he thought the Bishop had conveyed the views of every architect present. In the past year the society had made an important move and had become stronger by the formation of a branch in Wilts and Dorset under the able presidency of Mr. Harold Brakspear. During the past year a wave of enthusiasm had passed over Wessex in the matter of the preservation of their beautiful countryside. The Society for the Preservation of Rural Engand could and would always rely upon the help of every member of their Society. They should endeavour by every method of propaganda to make the public realise that in art and architecture they were carrying out every day what was really an aid to civilisation. They should recapture the great traditions and principles which notable men knew in the past.

Mr. Lessel McKenzie, city engineer, proposed "The Allied Societies" in an appropriate speech.

Mr. Percy Thomas, F.R.I.B.A., responding, said that in the Registration Bill they were hoping to have a Bill which would give them perhaps not all they could desire, but the principle of registration.

Mr. S. D. Kitson, F.R.I.B.A., proposing "The Wessex Society," referred to the fact that the first honorary member was Thomas Hardy.

The President, responding, said the membership of the Society was about 220, and he hoped there would be an increase in membership. He expressed the hope that it would be possible to extend the activities of the Bristol School of Architecture to the northern part of the county, where architectural education received very little attention.

Mr. J. E. Barton gave the toast of "The Visitors," to which Mr. C. R. Setter, President of the South-Western Federation of Building Trades Employers, responded.

THE INSTITUTE OF BUILDERS.

A lecture on "Limes and Plasters," organised by the Midland branch of the Institute of Builders, was delivered in the Central Technical College, Birmingham, on December 4, by Mr. A. D. Cowper. Mr. S. Guy Sapcote, Fellow and Past-President of the Institute of Builders, presided, and in introducing the lecturer said Mr. Cowper came from the Building Research Station, Department of Scientific Research, Garston, Watford.

Mr. Cowper said the troubles experienced nowadays with such materials as limes and plaster could be traced to the failure of traditional materials through wrong handling due to misapplied local tradition when using an imported material; to sheer ignorance and apathy on the part of workmen without the traditional knowledge of the local material; to blunders made, sometimes with the best of intentions, with new materials for which no tradition existed at all and for which inadequate instructions had been issued; and to the novel element of haste in construction which brought in its train so many and so severe demands on old materials and new alike. The building research station existed largely to cope with that situation by making available generally the correct traditional method for any material in other localities into which it might be transported; through research to modify the leisurely traditional methods in order to meet successfully modern needs; and to impart the modernised methods to the building public. The lecturer explained the methods to be employed for testing limes, and discussed the general situation in regard to plastering materials.

SOUTH WALES INSTITUTE OF ARCHITECTS.

On Thursday, November 22, Mr. J. E. Barton, M.A., headmaster of the Grammar School, Bristol, delivered a lecture in the lecture theatre of the Engineers' Institute, Cardiff, on "Art and Character." The lecture was organised by the South Wales Institute of Architects (Central Branch) and the Institute of Builders (South Wales Branch), and in the absence of Mr. J. Llewellin Smith, M.B.E., L.R.I.B.A., Mr. Ivor Jones, A.R.I.B.A., presided over a large audience of members and their friends. Mr. Barton's lecture, which was illustrated by a fine collection of lantern slides, dealt first with the oriental characteristics of architecture and the allied arts in certain of the great periods. The lecturer then illustrated and discussed some of the earlier manifestations of art in Crete, ancient Egypt and China, and ended with an interesting comparison of the arts in the 19th century and some present-day developments.

R.I.B.A.

At Monday evening's meeting of the R.I.B.A., the following resolution, passed at the Special General Meeting held on Monday, December 3, was confirmed:—

"That this meeting hereby approves, ratifies, and confirms the Provisional Agreement for the sale of No. 28, Bedford-square, made between the Royal Institute of British Architects and the Architectural Association, produced to the meeting and, for the purposes of identification, initialled by the President, and directs the Council of the Institute to carry the said agreement into effect."

The Hon. Secretary announced with deep regret the death of Frank Wallis Eggins, elected Associate 1922; Wilfred Langcake, elected Associate 1925; James Aynsworth Lindsay, elected Licentiate 1911; William Arthur Harvey Masters, elected Licentiate 1910.

St. Paul's Bridge Scheme.

The textile interest in the western part of the City, principally in the Ward of Bread-street, is preparing to renew the opposition to the proposed St. Paul's Bridge. Arrangements are being made for a protest meeting next month at Cordwainers' Hall. A resolution has been drawn up for submission to that meeting, in which the following points occur:—

"(*a*) That the application to Parliament of the Bridge House Estates Committee for an extension of time during which a bridge at St. Paul's may be constructed should be opposed on the grounds that (1) None of the schemes suggested safeguards the stability of the Cathedral; . . . (3) the erection of another bridge in the short space between Southwark and Blackfriars Bridges would add greatly to the difficulty and danger of the navigation of the river; (4) the traffic difficulty would not be relieved, but would be rendered still more acute by the addition of a new stream of north and south traffic crossing east and west traffic at the G.P.O. and at Cannon-street—points which are already congested.

"(*b*) That, if a bridge is required in the West City, the plan recommended by the Royal Commission on Cross River Traffic is preferable."

OBITUARY.

Mr. Charles Rennie Mackintosh, F.R.I.B.A.

The death has occurred in Spain of Mr. Charles Rennie Mackintosh, the eminent Glasgow architect. Mr. Mackintosh, who was 59 years of age, had been in declining health in recent years. He was educated at Allan Glen's School, and, deciding to take up architecture as a profession, he became a student at Glasgow School of Art. After a distinguished career there, he gained in 1890 the Greek Thomson Travelling Studentship. Mr. Mackintosh was elected an honorary member of the Austrian Secession in 1900, and was awarded the diploma of honour for his work as architect of the Scottish Section of the International Exhibition of Art in Turin in 1902. He was elected a Fellow of the Institute of British Architects in 1907 and a member of the Glasgow Institute of Architects in 1908.

From one who knew him we have received the following appreciation :—

"Charles Rennie Mackintosh was apprenticed to Mr. Hutchison, a Glasgow architect, and, as a matter of course, attended the Glasgow School of Art; in architectural design he early took a line of his own, coming under the influence of the Art Nouveau movement then in high favour. All the same, he had a competent acquaintance with orthodox tradition, competed for a Gothic Chapter House, for the Soane, and gained a prize for a suite of halls—based on the manner of Mr. Sellars, a well-known Glasgow architect—and, later, won the Greek Thomson Travelling Studentship. Greek or Roman work attracted him less than the Renaissance, but of it he made excellent studies, so if his subsequent style was away from traditional practice, it was of set choice and to be respected. Of his many followers so much cannot be said, who but copied his tricks and oddities without his knowledge of historical precedents. Mr. Mackintosh entered into partnership with Mr. John Keppie, and the design for the new School of Art being accepted out of a half-dozen Glasgow competitors, his great opportunity came. It is a well-planned building, suiting its purpose. The challenge lies in the minor details externally and within; decorative features that one is accustomed to expect are absent, mouldings are few, and rectangularity prevails, with an insistence on a tree-like form having root, stalk and branchings imposed alike on stone, wood, metal and plaster. Painted decoration is ostentatiously rejected, a whimsical exception being some toy-like railing-spars in the library.

"However refreshing the originalities and caprices of the design, more fitting objects for their display were found in a few City Tea Rooms, where the arresting characteristics of the Mackintosh style are legitimate advertising. The touch extends to furniture and fittings and table-ware. Glasswork in lighting and as panel decoration is especially dainty and novel. It is quite regrettable that two of these notable essays in design are by structural alterations now obliterated. The "Herald" offices in narrow Mitchell-street has a fine tower, and another newspaper premises in a still narrower lane are with a public school in Scotland-street, and, in Sauchiehall-street, an extension of a great warehouse that has a well-outlined dome and lantern, his principal Glasgow works. A house at Helensburgh, with its curious severities, has affinity with a Continental vogue of the time.

"Of his subsequent work in Chelsea I have no knowledge. He was a man of capacity, wilful and wayward; his mannerisms of style excited enthusiasm and strong antipathy; equally their merits are admitted, and the mere eccentricities hardly concern one now, for the phase has passed."

ILLUSTRATIONS

The Shaftesbury Memorial and Piccadilly Circus.

Mr. John Murray's scheme for the re-erection of the Shaftesbury Memorial Fountain in Piccadilly Circus is referred to in a note on page 1008.

New Mercantile Bank, Singapore.

This building is an important example of the type of commercial building which is now being erected in Singapore. Messrs. Keys & Dowdeswell, F. & A.R.I.B.A., are the architects.

War Memorial, Parish Church, Over.

The War Memorial in this church takes the form of a reredos, altar, side panelling and screen. Messrs. Robert Bridgeman and Sons, of Lichfield, were the craftsmen for the oak work. Messrs. Douglas, Minshull and Williams were the architects.

House at Hampstead Garden Suburb.

This house was designed to face on to the heath, and although the principal rooms were at the back, it was necessary also to arrange them as far as possible to get both aspects on to the garden and the view across the heath. With this point in view a large drawing-room was arranged from front to back. The materials proposed were grey bricks and half-timber work with old tiles.

Mr. Hubert Lidbetter, F.R.I.B.A., is the architect.

Merchant Navy and Fishing Fleets War Memorial.

This memorial, to the 12,000 men of the Merchant Navy and Fishing Fleets reported "missing" during the War, has been erected on Tower Hill, near the Port of London Authority Building. Sir Edwin L. Lutyens, R.A., F.R.I.B.A., is the architect. Messrs. Holloway Bros., Ltd., were the builders.

Design for a Village Institute.

The subject for this year's R.A. Schools Travelling Studentship (value £60) was a design for a village institute. The successful design, by Mr. E. A. A. Rowse, is illustrated this week. The full list of R.A. Schools awards, together with a review of the designs, was given in our last issue.

Elmhurst County School, Street, Somerset.

It is proposed to erect this assembly hall in conjunction with new open-air classrooms at this school. The hall will be 55 ft. by 33 ft., with suitable retiring-rooms, built of local stone with tooled dressings of the same material, and roofed with russet and grey Delabole slates in diminishing courses. The cost will be defrayed by the family of the late Mr. W. S. Clark, of Street, to whose memory the hall will be dedicated.

Mr. A. J. Toomer, L.R.I.B.A., is the County Architect.

Whitehill School, Gravesend.

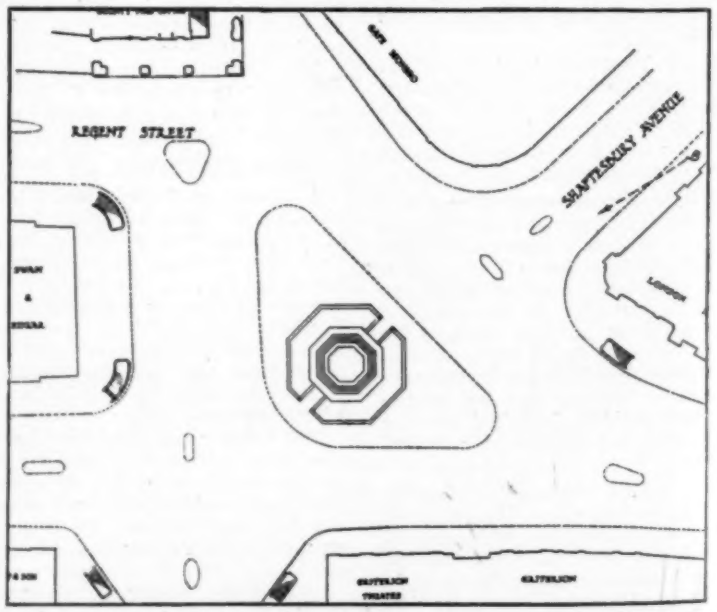
This school forms part of the Corporation's housing estate, and is designed to accommodate the juniors and infants, and planned to occupy the south-east corner of a site, roughly triangular in shape, and to leave a rectangular site for a future senior school, which will accommodate 600 children. The building generally is constructed of 11 in. hollow brick walls, with piers, faced with 2 in. Tudor sand-faced bricks. Partition walls between classrooms are built of patent hollow blocks. Pediments and surrounds to doorways are of patent stone, floors of wood blocks, those to verandahs, cloaks, etc., being finished with granolithic face. Roofs are constructed with steel trusses, covered with Portmadoc slates. The classrooms are 11 ft. in height, flat ceilinged. Central heating is installed throughout by hot water (low pressure), and lighting is by electricity. Windows are arranged to give adequate cross-ventilation. The verandah is constructed with wood posts and framing, covered with an asphalt flat, the verandah being protected from the weather by means of a dwarf wall. The school consists of seven classrooms, accommodating 50 children each, making a total recognised accommodation of 350 mixed and infants. A hall of suitable size is provided, with cloakrooms arranged for the two sexes, as shown, with staff accommodation over. The cost of the school amounted to £10,445, being approximately £29 17s. per place.

The general contractors were Messrs. H. Friday & Son, of Northend Works, Erith, and the following were sub-contractors :—Shaw & Co., Greenhithe, facing bricks; S. Gibson, Dartford, Kent, heating; Patent Victoria Stone Co., patent stone; Creffield Electric Supplies, Erith, Kent, electric lighting; W. E. Farrer, Ltd., Birmingham, sanitary fittings; Carter & Aynsley, Ltd., hardware fittings.

Mr. John G. Bennett, L.R.I.B.A., is the borough architect.

Concrete House Competition.

To demonstrate the advantages of concrete as a material for domestic architecture, the Portland Cement Selling and Distributing Co., Ltd., recently organised an architects' competition for designs for a concrete house to cost £1,500. The assessors have now made their awards as follows :—1st (£250), D. F.



Plan of Piccadilly Circus, showing suggested site for Shaftesbury Memorial.
BY MR. JOHN MURRAY, F.R.I.B.A.

Martin-Smith, A.R.I.B.A.; 2nd (£150), W. Stanley Blount, L.R.I.B.A.; 3rd (£100), Gordon H. G. Holt.

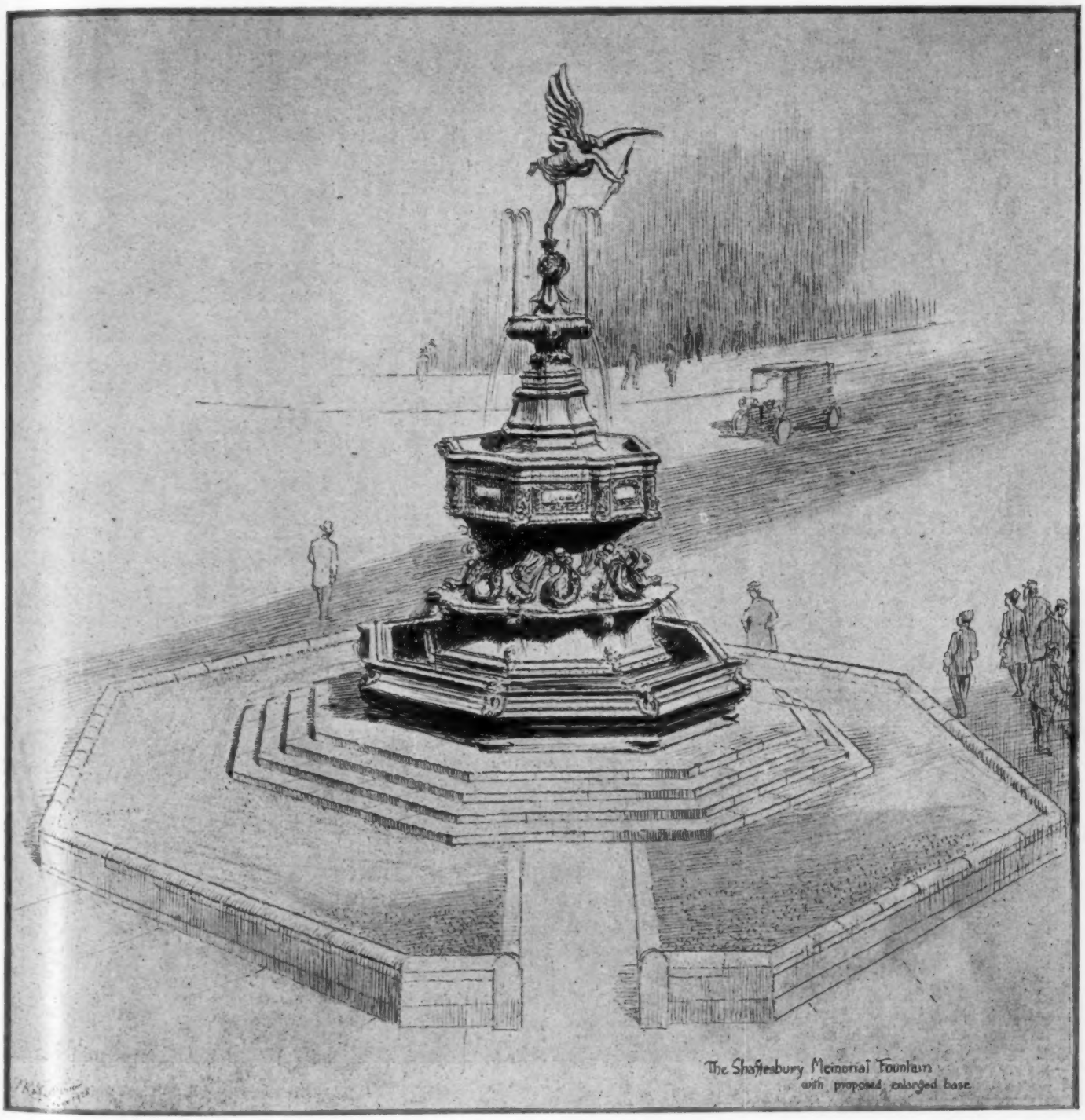
The assessors, Messrs. E. B. Glanfield, Oswald P. Milne, Douglas G. Tanner, and Arthur G. Cross, in their report, state :—"Seven hundred designs were received for the £1,500 House Competition, many reaching a high standard in planning, design, and the use of concrete. The conditions allowing the competitors discretion to use a percentage of materials other than concrete has led to many interesting solutions of the problem. A number of plans having excellent qualities both in design and construction fail to gain a premium owing to the fact that, in our opinion, they could not be erected for the stipulated amount or otherwise did not comply with the conditions.

"We unanimously award the first prize of £250 to Design No. 382. The plan and specification generally fulfil the conditions, and the house is economical in construction. We must, however, draw attention to the planning of the kitchen; the china cupboard would appear to be dark and the scullery is too narrow for practical purposes. We suggest that these objections could be overcome by slight rearrangements. The elevations are well designed, being simple and refined in character.

"Design No. 350 is awarded the second prize and fulfils the conditions in a straightforward manner. In the endeavour to solve the problem of the requirements of the modern small house a number of clever and ingenious plans were submitted. Design No. 695, selected by us for the third prize, provides an interesting solution. The planning of the house is generally good, but the disposition of the garage causes difficulties in the approach to and lighting of the hall which the competitor has not completely solved.

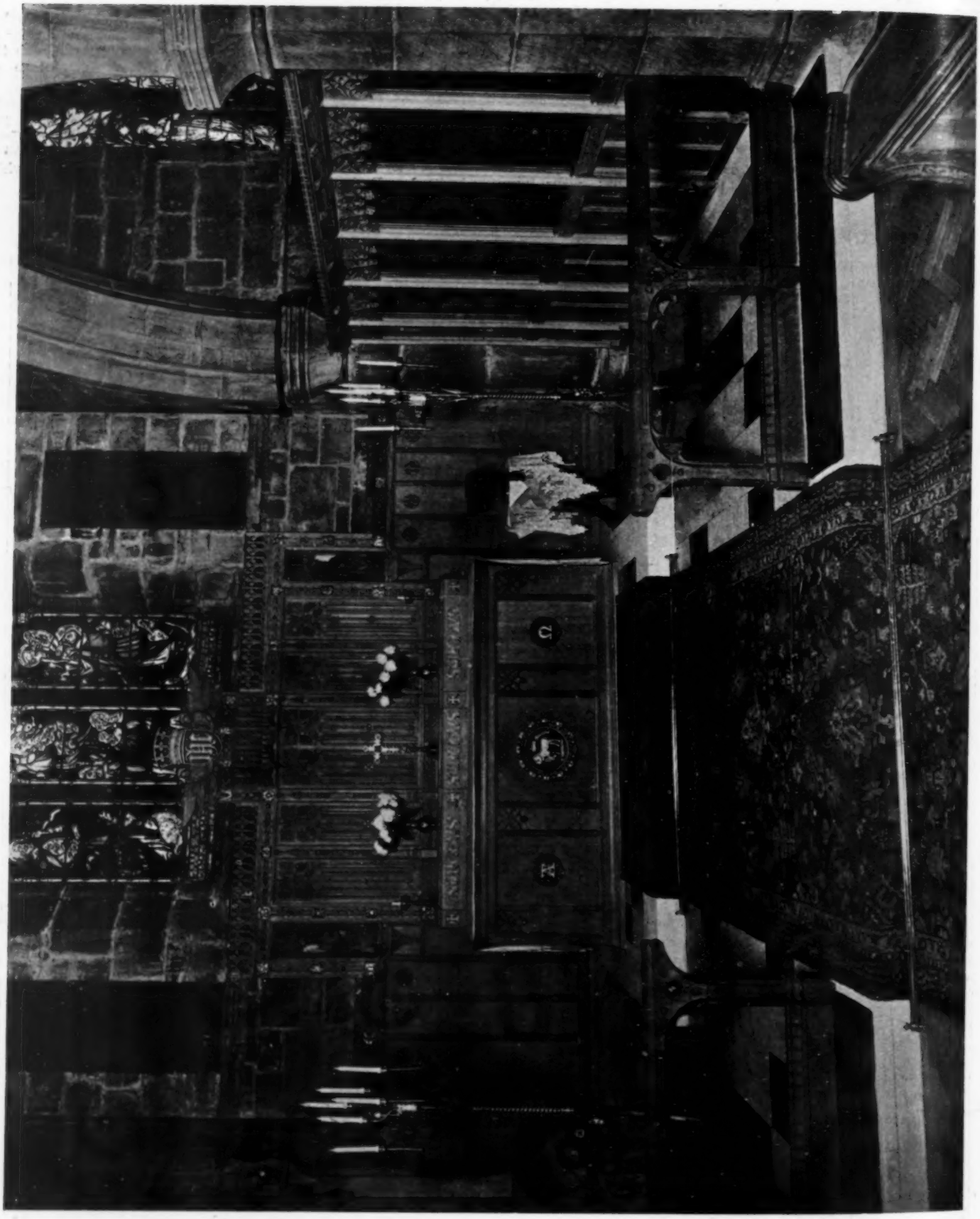
"As requested, we have selected a further 47 designs which we consider are worthy of note but do not necessarily comply with the conditions as to cost or percentage of materials."

The first prize design will be specially erected and completely equipped and furnished at the next *Daily Mail* Ideal Home Exhibition at Olympia. We are indebted to the *Daily Mail* for the illustrations which we give this week.



The Shaftesbury Memorial Fountain, Piccadilly Circus.

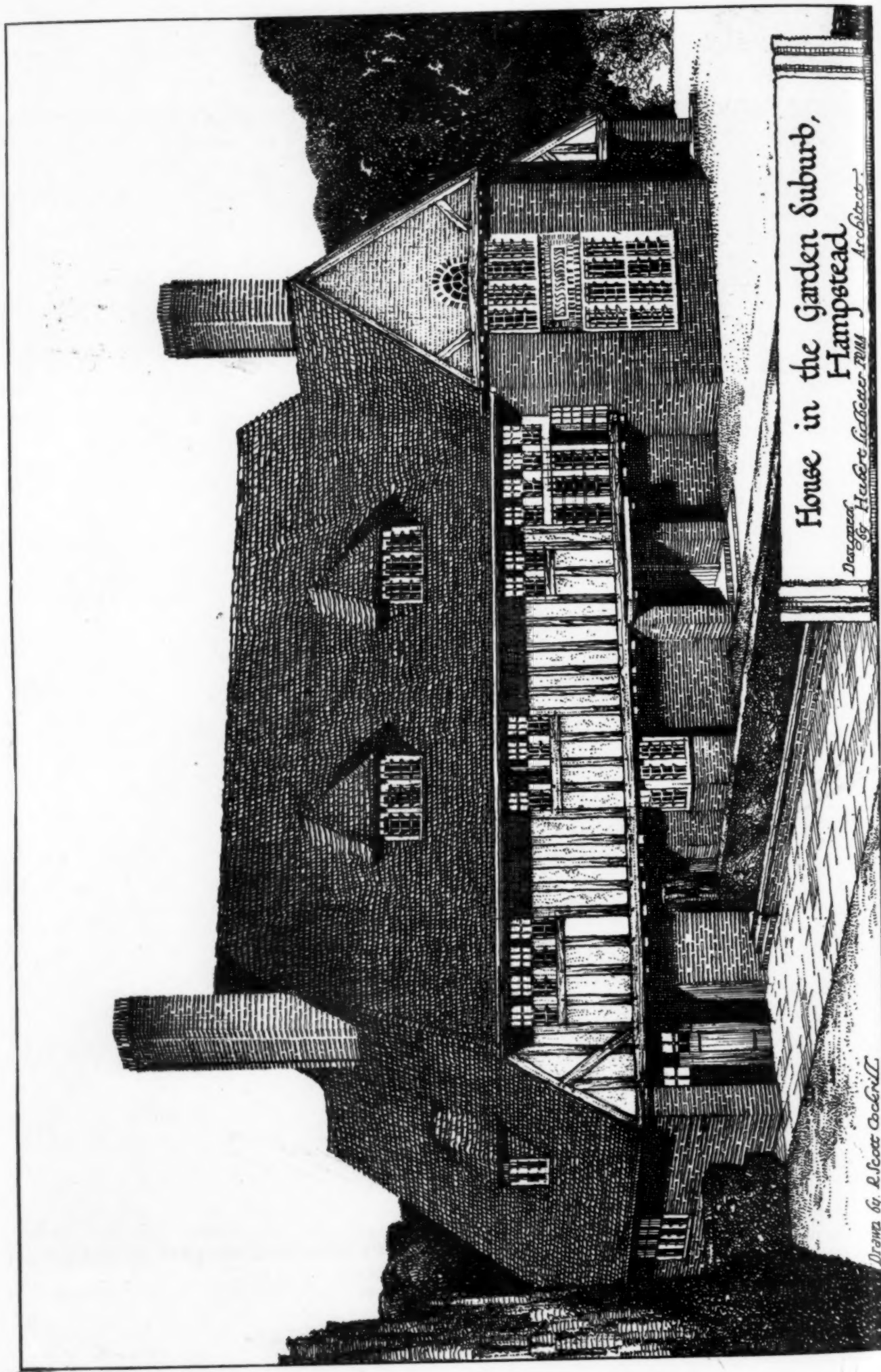
Sketch showing enlarged base and grass lawn, as suggested by MR. JOHN MURRAY, F.R.I.B.A.



War Memorial in the Parish Church, Over.
Messrs. Douglas, Minshull & Williams, Architects.

928

War Memorial in the Parish Church, Over.
Messrs. Douglas, Minshull & Williams, Architects.



MR. HUBERT LIDBETTER, F.R.I.B.A., Architect.

THE SHAFTESBURY MEMORIAL FOUNTAIN, PICCADILLY CIRCUS
By Mr. John Murray, F.R.I.B

CADILLY CIRCUS: SUGGESTED POSITION FOR ITS RE-ERECTION.
furray, F.R.I.B.A., Architect.

R.A. Exhibition, 1928.

NEW MERCANTILE BANK LTD, SINGAPORE.

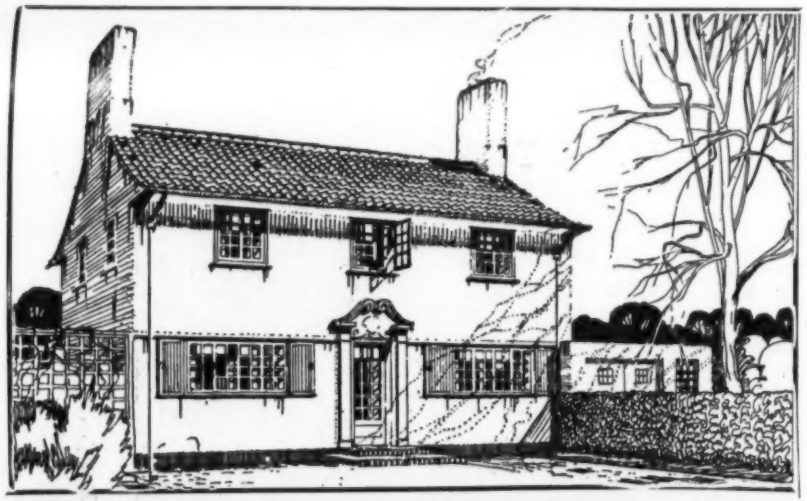
Messrs. P. Hubert Keys & Frank Dowdeswell, F. & A.R.I.B.A., Architects.

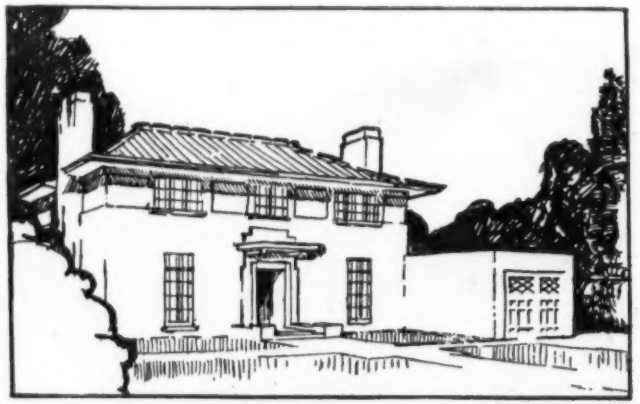
Merchant Navy and Fishing Fleet's War Memorial, Tower Hill, E.C.

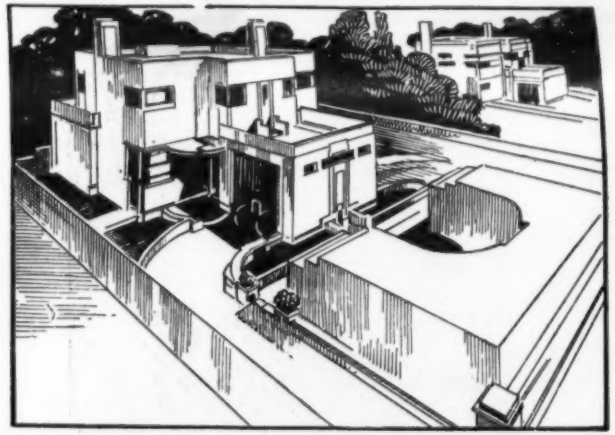
SIR EDWIN L. LUTYENS, R.A., F.R.I.B.A., Architect.

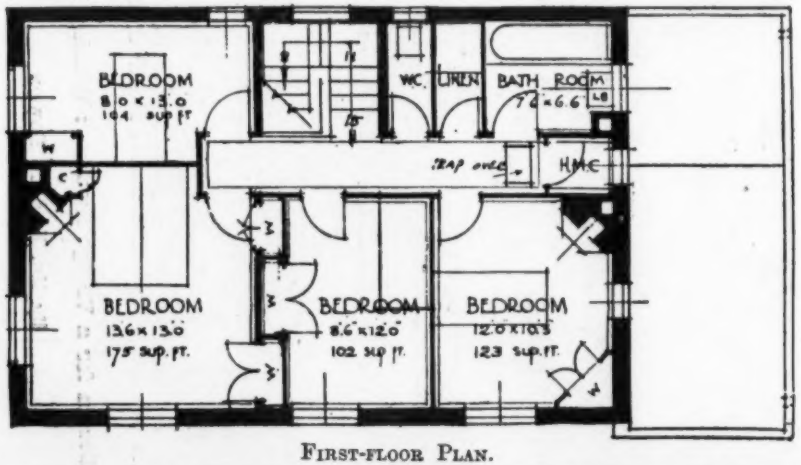
4,500 CONCRETE HOUSE

£1,500 CONCRETE HOUSE COMPETITION

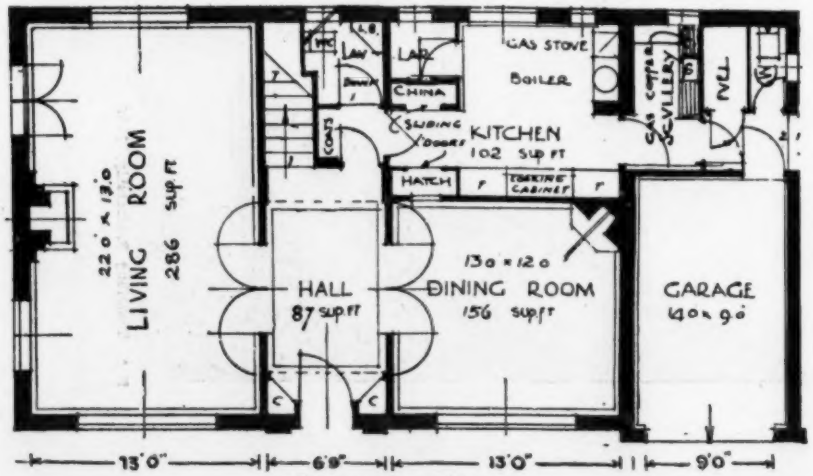




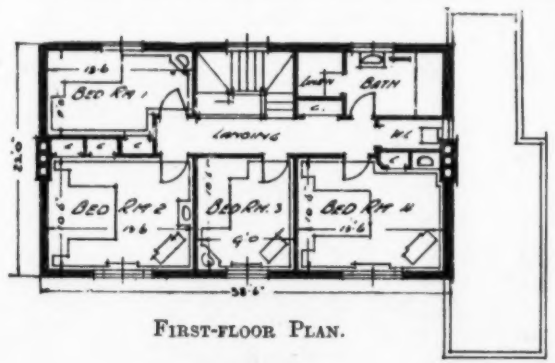




FIRST-FLOOR PLAN.



GROUND-FLOOR PLAN.



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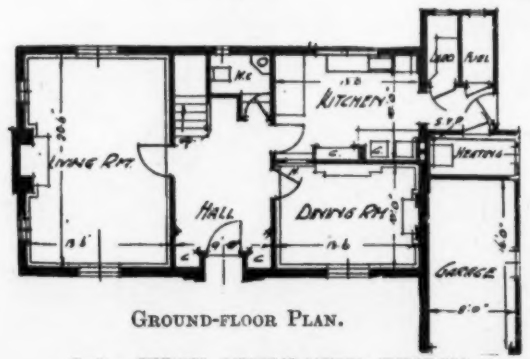
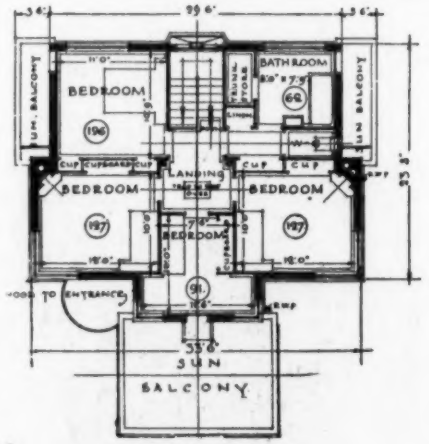


GROUND-FLOOR PLAN.

Left.—FIRST PREMIATED DESIGN (£250).
By MR. D. F. MARTIN-SMITH, A.R.I.B.A.
Above.—SECOND PREMIATED DESIGN (£150).
By MR. W. STANLEY BLOUNT, L.R.I.B.A.
Right.—THIRD PREMIATED DESIGN (£100).
By MR. GORDON H. G. HOLT.



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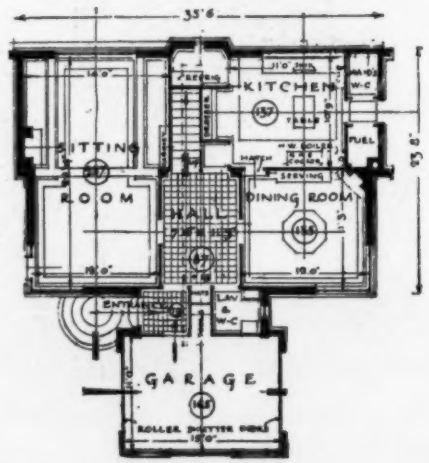

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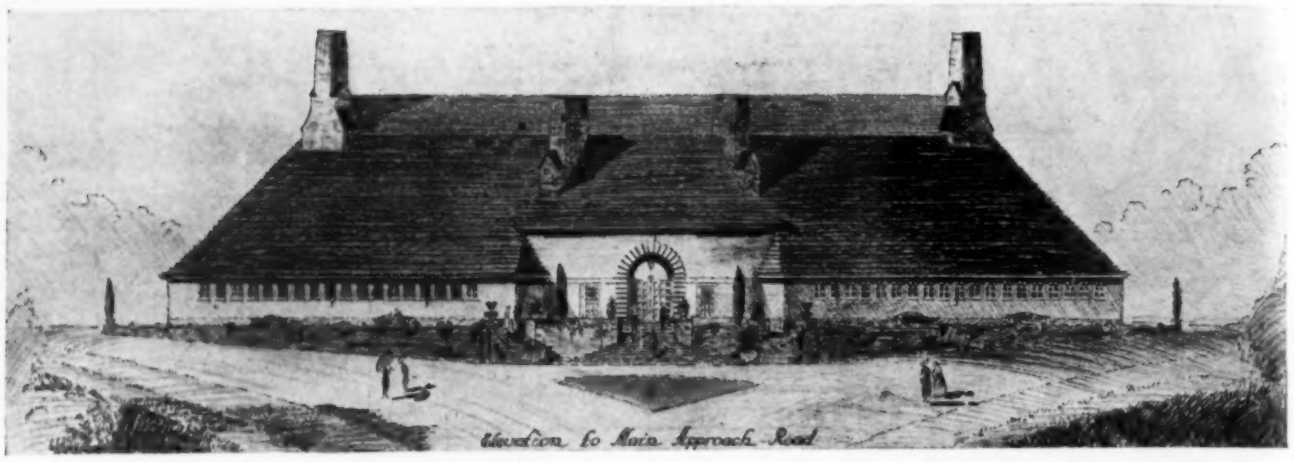
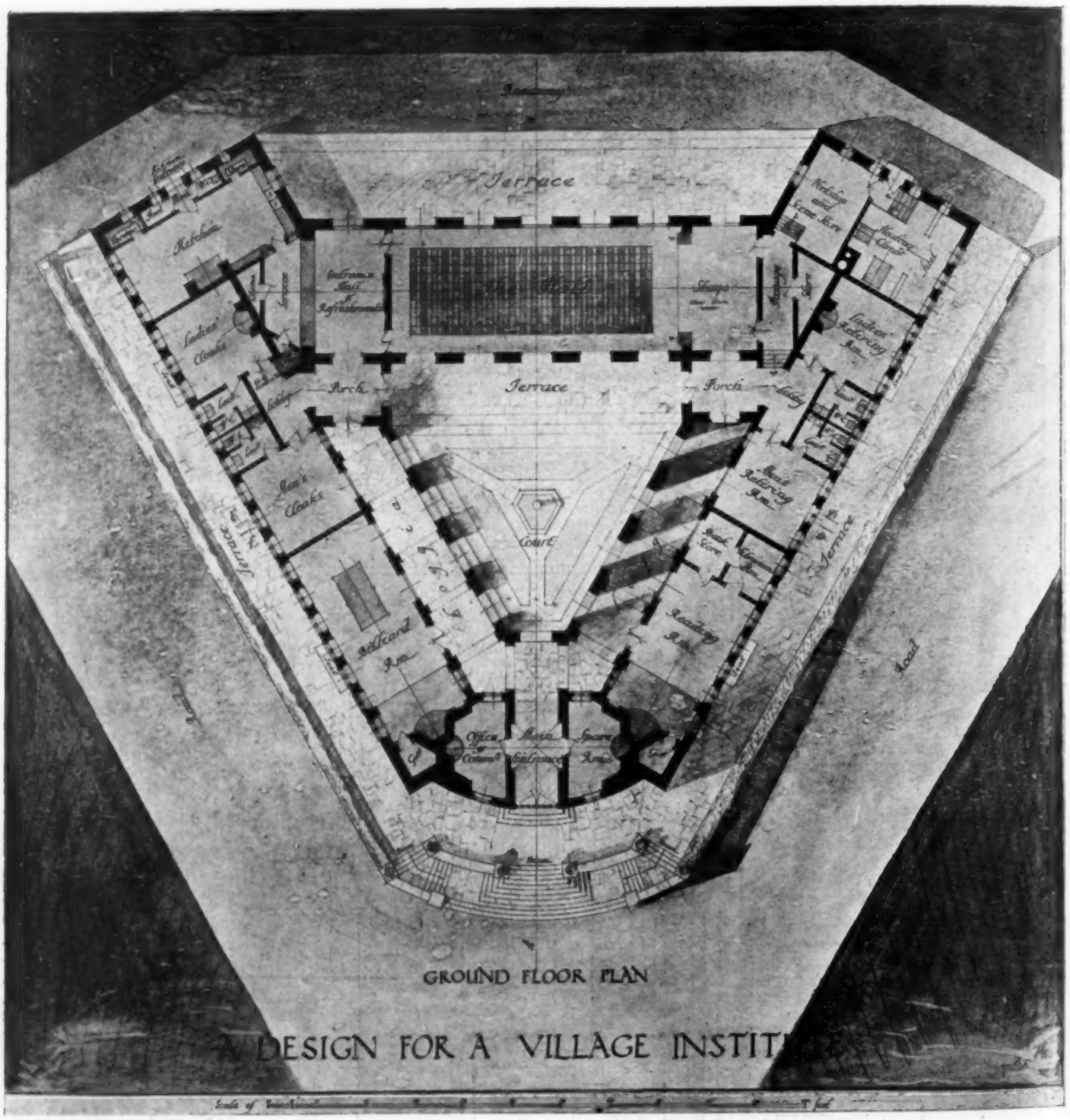
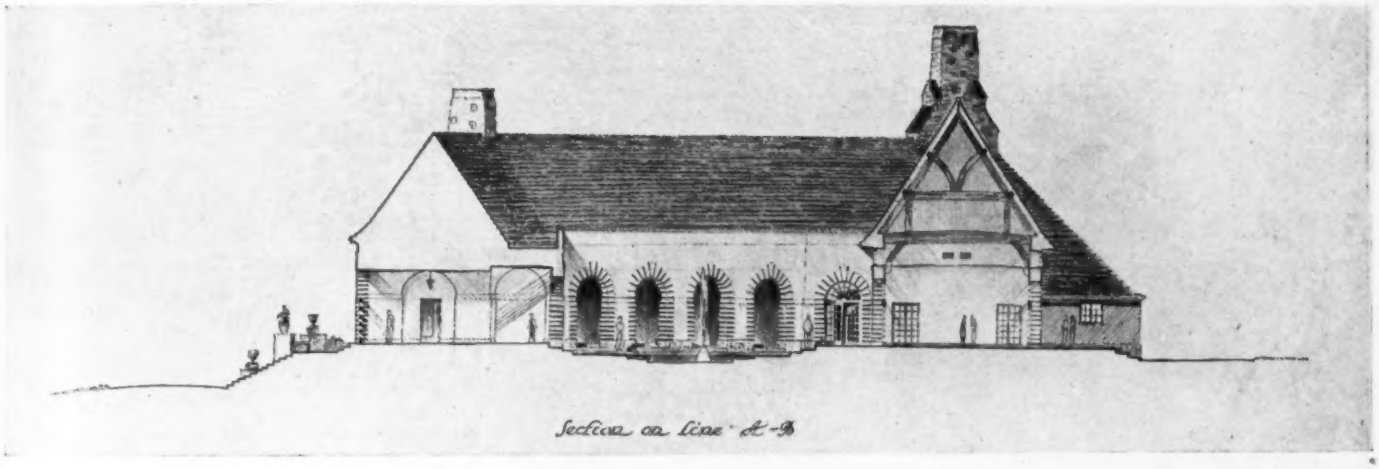


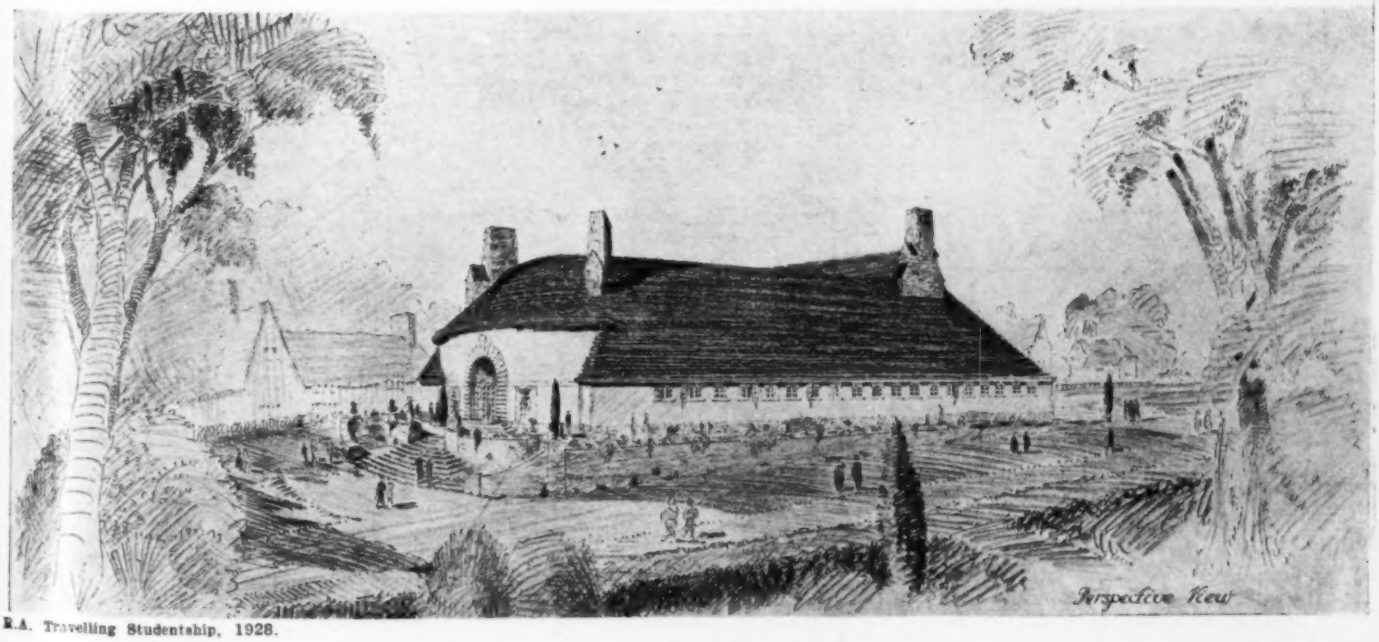


R.A. Travelling Studentship, 1928.

Design for a Village Institute: Winning Design.

By MR. E. A. A. ROWSE.





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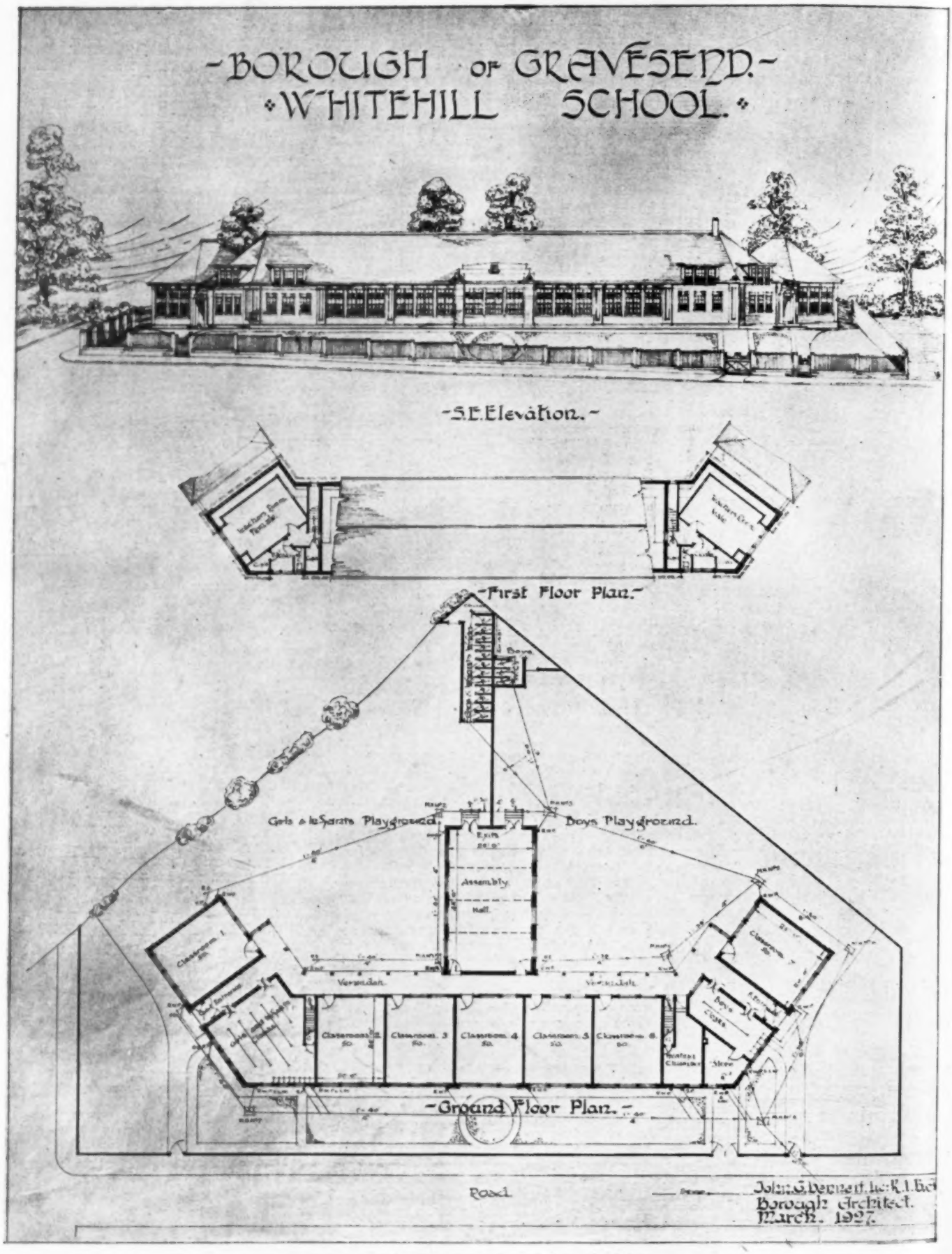
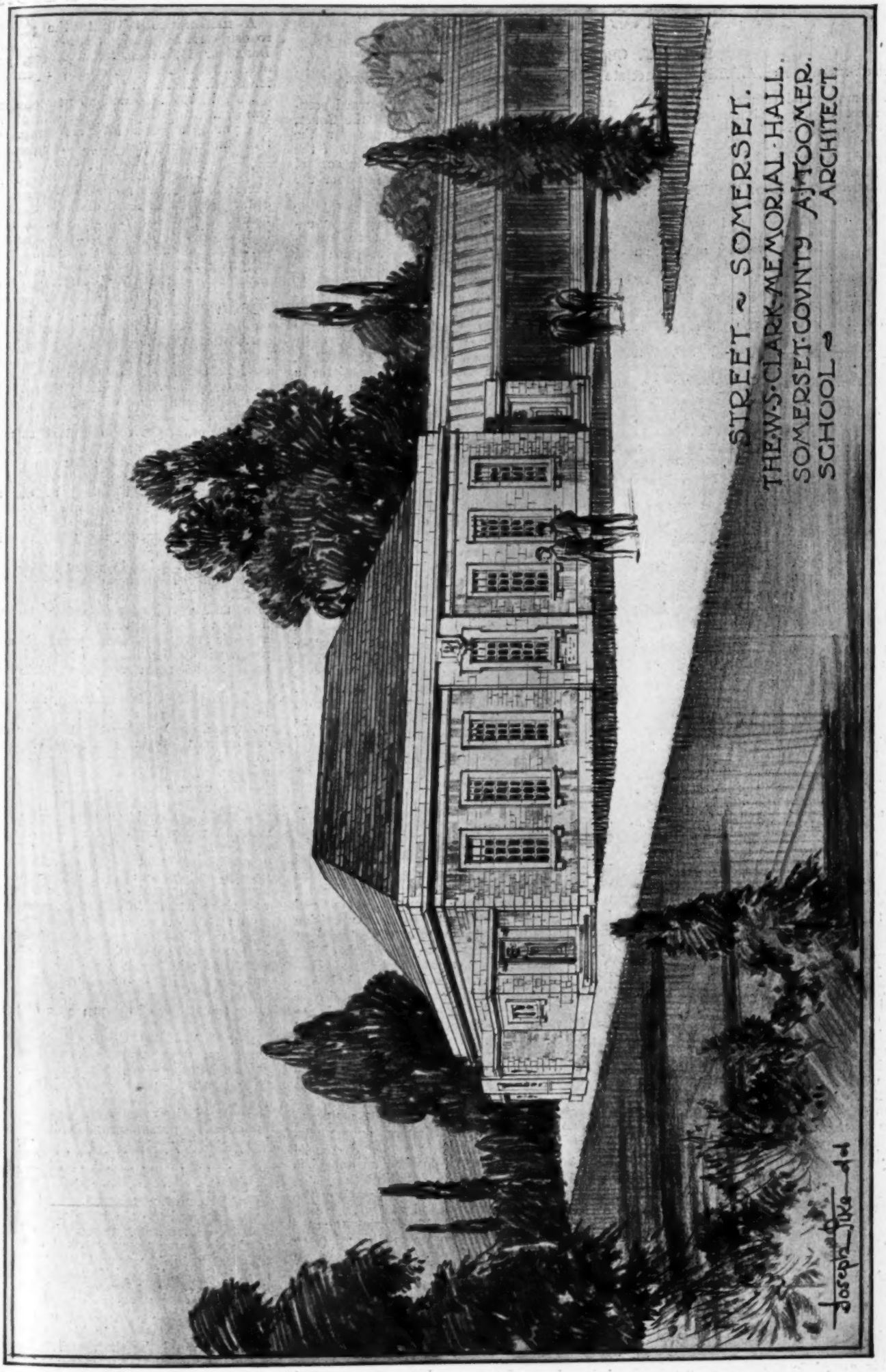


Mr. John G. Bennett, L.R.I.B.A., Borough Architect.



MR. A. J. TOOMER, L.R.I.B.A., Architect.

VALUATION AND ARBITRATION IN RATING APPEALS

By W. T. CRESWELL,
Barrister-at-Law, Hon.A.R.I.B.A., Associate (late Fellow) Surveyors' Institution.

IN recent years special courts of arbitration have been set up by individual trades or communities to deal with disputes arising within their own several spheres, the decisions arrived at by these tribunals having generally proved to be acceptable, satisfactory, and conclusive. Also, the Legislature has shown a constantly increasing desire to encourage arbitrations, and to uphold the decisions and awards of arbitrators. Some Statutes provide for compulsory arbitration whilst others recommend or make this course optional. Generally, the Arbitration Act of 1889 applies in all these instances, unless it is expressly excluded or is inconsistent with the terms of the Act governing the dispute.

Valuation under the Rating and Valuation Act, 1925.

Under Section 33 of the Rating and Valuation Act, 1925, any party to an appeal made to Quarter Sessions may apply to the Court, asking that the Court shall direct a valuation to be made, and the Court may appoint a valuer who may (and if any party to the appeal desires it, shall) be called as a witness by the Court, and if he is so called then any party to the appeal is entitled to cross-examine him. Such application may be made either before, or during, the hearing of the appeal, but must be made before any evidence as to value has been adduced. But it must be distinctly understood that the valuation made at the direction of the Court is not an arbitration nor is it any kind of judicial inquiry, but is merely accepted by the Court as an agreement between the parties as to the value of the thing concerned.

The parties may agree between themselves *in writing* to appoint a person to value any hereditament (or any part thereof) and to accept the valuation of that person as binding for the purposes of the appeal, and to treat the costs of, and incidental to, the valuation as part of the costs of the appeal.

It must further be understood that the valuer in this case does not *decide* the appeal which must go before the Court for disposal, either at a formal hearing, or by a consent order for judgment of the Court.

Costs.

The costs of a valuation are costs in the appeal, and are payable in the first instance by the applicant, and generally with certain exceptions an applicant must give security for costs of the valuation as the Court thinks proper.

Arbitration under the Rating and Valuation Act, 1925.

Under Section 31 (6) of the Act, the appellant, and other persons who have given notice of their intention to appear as respondents to his appeal, may on the other hand agree in writing (at any time after the giving of the notice of appeal to Quarter Sessions) to refer the whole of the matters in dispute, or any question or issue arising therefrom, to arbitration; and if that course is chosen, in preference to that of obtaining a valuation, the arbitration must be conducted in accordance with the provisions contained in Part II. of the 5th schedule to the Act of 1925; and the arbitrator's decision is final, being the outcome of a judicial inquiry.

The arbitrator may be one agreed upon by the parties themselves; or on their failing to do this, the Act provides that an arbitrator shall be appointed by the President of the Surveyors' Institution.

The parties may, before entering on the reference, further agree that the arbitrator's award shall be final and conclusive on questions of law as well as of fact. If this course is adopted the arbitrator has no power to make his award in the form of a special case, under Section 7 of the Arbitration Act, and by that course to make his award actually dependent on the decisions of the Court, nor alternatively, to state a case for the opinion of the Court under Section 19 of the Act during the proceedings, and the control which the Court normally exercises over the arbitration is excluded.

Under Section 31 (7) of the Act of 1925, the award of an arbitrator may be "enrolled" at Quarter Sessions upon the application of any party interested therein; and thereupon Quarter Sessions shall cause such order to be issued as may be necessary to give effect thereto.

If an award which has been enrolled at Quarter Sessions involves an alteration in the Valuation List, the Clerk of the Court must send to the County Valuation Committee, and to the Area Assessment Committee a statement in writing signed by him setting out the decision of the Court, or the award, or the judgment, as the case may be, and specifying the alteration necessary in the Valuation List of the area concerned.

Under section 31 (4) of the Act of 1925, the arbitrator can, by his award, confirm in the Valuation List the items under review or decide what alterations shall be made to give effect to the contentions of the appellant if those contentions are, in his judgment, well founded. If the appellant asks for a *reduction*, the arbitrator cannot by his award *increase* the assessment. If he asks for an *increase*, similarly the arbitrator cannot make a *reduction*. But, of course, he may exercise his judgment as to the amount by which the existing assessment shall be either lowered or raised. Further, he must continuously preserve in his mind the fixed relationship between gross value and net value, as determined by section 22 of the 1925 Act, following which, appeal cases no longer turn, as formerly, upon the ascertainment of the Statutable deductions due to be made from the gross value, but are decided by reference to the gross value itself.

Costs.

The arbitrator has power to award costs of, and costs incidental to, the hearing (under Part II of Schedule V of the Act); but the costs so awarded are, unless otherwise agreed by the parties, taxable (under Rule 10) as part of the total costs of the appeal to Quarter Sessions; a date for this taxation being fixed by the Clerk to the Court. Further, provision is made by the Act for costs to be taxed at any time by application to the Clerk of the Court; whereas formerly, if such an application was not made promptly and before Sessions closed, the taxation had to stand over till special application could be made to Sessions for leave to tax "out of Sessions."

Under Rule 12, objections may be lodged against taxation within five days of its completion; and an aggrieved party may apply to the Court within ten days for the review of the taxation.

Rule 11 gives the amounts allowable in fees, etc., to counsel, solicitors, expert witnesses, and the arbitrator; a second counsel is not provided for. But when an appeal is referred to arbitration, application upon motion can be made at the time when the award is enrolled for second counsel.

Sections 12, 13 and 14 of the Quarter Sessions Act, 1849, in so far as they relate to arbitration, are no longer applicable in an appeal under section 31 of the Act of 1925.

From careful review and consideration of the above, it is evident that parties to any appeal made under the Act will, generally speaking, find great advantage in availing themselves of the provisions of the Act for reference to arbitration, this undoubtedly being, in the long run, the most economical method of settling all disputes.

BEAUTIFYING ROADS

A MEETING to advocate the planting of roadside remembrance trees was held on December 11, at Australia House, presided over by Sir Henry Barwell, Agent-General for South Australia.

He said the idea was no new one in Australia; in many ways they were inculcating in the young there a love and reverence for trees and nature generally. Members of the Royal Family had planted trees in Australia, some of them sent by Dr. Hill, Director of Kew Botanic Gardens. Many country towns in Australia had their soldier memorial gardens. In addition to inspiring the people with a sense of the value of trees, there were economic uses, and trees were also of great meteorological value in Australia. In Australia the people appreciated deeply the sentiment which underlay the movement.

Mr. Gilbert Bayes, F.R.B.S., then spoke on roadside sculpture and its relation to its surroundings. He said that he had been to Paris as a young man many times and had enjoyed the beauty of the sculpture in her streets, parks and public gardens. But it was quite a number of years before he discovered that what he had been admiring was in many cases not the sculpture so much as the way in which sculpture and surroundings were blended. He did not mean that there was not a great deal of fine work there, for there was. That blending in our streets was often lacking. He was not there to place the blame upon the shoulders of any one class, but he did not think that it was always the sculptors who were at fault; the opportunity had to be given before it could be taken. In England we seldom seemed to think of making things that people would love and get intimate with. Trees and flowers were lovely things, but statuary gave a scale to them, and provided a point round which to make the composition; sculpture, in its turn, was incomplete without its proper surroundings. France and Italy could do these things properly, and Germany understood them also, and so could we if we would only realise the necessity and set our brains to work. It was an extravagance to put up things, as we so often did, without relation to the life around them. Let the job be done properly, and it paid as few things paid—and the Continent knew it. The Continent could show us many charming schemes where memorial seats were a great addition. Water and fountains were a joy of childhood that went on through life; groups and figures and flower vases, in bronze, stone, lead or faience, are available; was there a wall to embellish, a relief could go on it. Whose duty it was to see that there was that unity between sculpture and its surroundings he did not propose to discuss, but whether it were architect, garden architect, sculptor or councillor, each one would be better fitted for the task if he knew something of the problems of the sister arts.

Mr. E. Prentice Mawson then said a few words on parkways, boulevards and other connecting roads of a more or less ornamental character in urban districts. He said that it must be realised that the task before the Association was not so much to create or even to preserve and enhance existing beauty along our highways, as to concentrate on the provision of examples, one of each generic kind, which should be so good and so far in advance of anything hitherto seen in this country that they might compel attention, and fire the imagination of others, not to imitate, but to put into their own work the same spirit worked out on lines applicable to the conditions prevailing in each individual case. He would particularly deprecate effort spent on such exceptional objects as the Brighton or Dover Road, anyway until other avenues of usefulness had been thoroughly explored, for the opportunity for applying the moral to be deduced from such exceptional features was bound to be rare. It would be far better to select a subject which was as typical as possible

of dozens of others, and, having selected it, to work at it, study it from every possible angle, and make the very most of it from every possible point in our power. Mr. Mawson then spoke on town planning. We had now learnt to plan the whole of a town's public and semi-public open spaces on more scientific lines, not only as parts of a system of their own, but also as an entity within a very much larger one affecting every other aspect of urban planning. We visualised the completed conception as one unit, each of the actual recreation areas providing the focus for a series of roads which, while they were, in the first instance, parts of a gyratory traffic system for the town, at the same time possessed great æsthetic value as boulevards linking up the open spaces by routes which, in themselves, were attractive and park-like. The result of such an arrangement invariably was that the parks and gardens of the town so treated were infinitely more appreciated, for, for every other person who was willing to undertake a considerable walk through mean streets to a park or recreation ground, dozens would do so if their way lay along an attractive parkway.

As to the design of the individual parkway, that was, in Great Britain at least, usually a matter of compromise with the traffic system, but that, while severely limiting direction, need not in any way lessen the scope for æsthetic treatment, were the matter only approached in the right way. Indeed, it may help, for we should be compelled, for practical reasons, to insist on a deep building line and to plant foliage trees liberally as dust and noise screens. But whatever else we did, we must try and give to each part of our system of boulevards its own individual character. Proportion, contours, the nature of the planting and layout, the architectural embellishments, and, indeed, every adjunct or component of the parkway might be manipulated to this end.

Many instances could be quoted to show that the making of beautiful parkways or boulevards was a paying proposition. The influence such features might have on rateable value might be very great indeed, and he could see no reason why, in cases where the conditions were propitious, that increase should not be enough to pay most of the reversionary interest on the money borrowed for the undertaking.

In planting the area immediately adjoining a parkway, the mistake was often made of ignoring the manner in which it would, when matured, cut up the prospect. It was easy to think of instances where, in ornamental planting schemes, mistaken efforts after beauty had obscured interesting prospects, and the work of planting by the wayside would be peculiarly open to the same defect, if great care was not taken. On the other hand, if the groups of trees were arranged as to frame instead of to obscure the prospect, even views tame and uninteresting in themselves might be made most attractive.

The architectural embellishments of a parkway or boulevard, briefly, might be grouped into three classes—those used as terminal features to close the vista, to put finis to the composition; those employed to mark changes in character, direction, and so on, at intermediate points; and thirdly, those which would line the route. Of the first he could only say that no hard or fast rule applicable to every case was possible. Height, breadth of façade, and character must all be specially arranged for the individual instance, so that the terminal feature might fill exactly the same function as the heavy double chord and double bar did to a piece of music. Again, in the same way, a very long piece of classical music was invariably sub-divided by distinctly marked change of theme, and, in our parkways, if they, too, were long, we must provide a corresponding clearly marked change. The second class of architectural feature—the intermediate one—used to mark a change in grade, route or character, would supply that, but only adequately if it was most sympathetically designed in relation to its surroundings. Of the third class—that lining the route—he could only say that all that could be viewed from any one point must be designed as one composition with due regard both to the emphasis of special points and consistency throughout.

The speaker then referred to one feature which, he said, ought to be architectural, but never was—the petrol filling station. He suggested that the Association's model boulevard should possess its model filling station. Indeed, the matter was so urgent that, before anything else was done, funds should be obtained for the building of an example of what a filling station should be, and its erection, on a prominent and specially suitable site, hurried forward as the starting point in the future campaign. It was probable, said the speaker, that if rightly approached and with a prepared scheme, the big petrol combines might, in their own interests, be prepared to shoulder the whole financial responsibility.

Finally, he realised that a good deal of the results of the propaganda work to be undertaken by the organisation would result in the presentation of trees, monuments and other ornamental adjuncts to our highways and boulevards, as memorials to persons or of events, and here he foresaw a distinct danger. Nothing could be worse than the spotty appearance which would inevitably result from conflicting ideas as to ornament or planting, given free play without rigidly co-relating and over-ruling control, and in the nature of things such control would be particularly difficult.

Mr. Clough Williams-Ellis then spoke. Roads, he said, originally and for ages were merely means to an end, the end being the end of a journey. They were just contrivances enabling one to move from place to place. Quite suddenly, they had become ends in themselves, or, at any rate, we now traversed them in our millions for the sake of moving through the air and the country—for wayside sightseeing and to escape from town and suburb, if only for a Saturday afternoon. And no sooner had the road become suddenly important to us as a means to pleasure and refreshment than we set about its destruction from every point of view save the purely mechanical.

It was the business and aim of the Association to promote and protect the higher amenities of the road. It ought, of course, to be everybody's business, it ought to be the business of the Government and of every county and district council. But we were in England, so it wasn't—as yet. We were in a free country, where we were free to line the roads with advertising hoardings, with filling stations, and with nasty, mean little tea-stalls and bungalows; free to cut *down* trees and avenues to make way for such nastiness; free to show ourselves uncivilised, short-sighted and selfish, and to spoil our once incomparable country, not only for ourselves and our children, but for visitors from abroad, to whom a road tour through England was once a wonderful thing.

Could one see oneself to-day setting out on the Brighton-road or the Dover-road or the Bath-road for *pleasure?* Those roads, not so long ago, had a sort of magic to them. Their names had still; but the roads themselves! Only memories were left. He felt, said Mr. Williams-Ellis, that the Association wanted to extend its charter; it should be the great national guardian of roadside amenity generally. One was supposed to pass free and unmolested along the king's highway, but one was constantly assailed by the importunities of those who exploited the highways for their own private ends to the detriment of public amenity.

That, somehow or other, we had to stop. A growing number *were* doing all possible to stop it in a variety of ways through a variety of channels and organisations; by speeches, congresses, exhibitions, and, of course, through the Press.

We wanted our roadsides lined with timber in the form of trees, not of hoardings; we wanted official protection *for* the former and *against* the latter. Wayside trees, once established, should be specially privileged and immune from all private interference, unless due sanction for interference was given for some good and sufficient cause.

The more we built, the more we needed to plant; and if, as it seemed, England was to become a sprawling suburb, let it at least be a green and leafy one—with groves and avenues to remind us that once—and not so very long ago—it could be spoken of as a green and pleasant land without satirical exclamation marks. It would soon be true to say, he was afraid, that the Englishman's home was his garage; more and more of us lived on our roads, and, according to statistics and the insurance companies, more and more of us died on them. It had also to be remembered that by the foreigner and overseas visitor we were largely judged by impressions formed along our roads; and if we did not have a care, his impression would soon cease to be a favourable one. An ugly England would very soon find herself—and quite literally—a poor England.

BOOK REVIEW

The Slum Problem. By B. S. TOWNROE, M.A., Hon. A.R.I.B.A. (Longmans, Green & Co.) 220 pp.; 8vo.; cloth; 6s. net.

The slum question is of such vital interest to all of us that this concise and readable exposition (at a handy price) will surely find a ready welcome. The author might well have written three times his 220 pages with less success in bringing the salient facts home to all who are interested in this question. As Sir John Walker, formerly a director of housing at the Ministry of Health, says in the introduction: "In the near future the nation will probably be asked to join in a concerted attack upon the problems of the demolition and replanning of overcrowded and insanitary areas of Great Britain. There can be no doubt as to the readiness of all who realise the moral and physical evils that result from slums to do everything in their power to respond to the call." And he reminds us—agreeing with the author—that money alone will not permanently cure slums: "Subsidies of any kind are apt to produce unexpected results, and I believe that the solution of the whole housing problem depends appreciably upon the building industry being freed from all the entanglements involved in State financial assistance."

Under various headings the author gives us the gist of the many aspects of the slum problem, including the history of slums from 1842 to 1914, and the progress made in the solution of the problem since 1919 in London and the Provinces. The progress recorded quite naturally includes a considerable amount of concise information concerning the L.C.C.'s huge dormitory settlements, town planning at Welwyn and Letchworth, and the building of 12,000 houses by the Industrial Housing Association for the South Yorkshire and Welsh colliers. Not the least interesting section is that dealing with women management of industrial properties, which commenced with Miss Octavia Hill's small effort in 1865, when she took over the management of three houses in Marylebone, John Ruskin providing the necessary capital. From this small but quite heroic essay, and, later, in the founding of the Association of Women House Property Managers by some of Octavia Hill's pupils, the business of industrial estate management has largely passed into the hands of trained women. "Already the University of London grants a degree in estate management, and courses of study can be arranged at the Household Science Department at King's College, the London School of Economics, and at the College of Estate Management." One has but to read this book to realise at once the great potentialities in this women's movement, not only in curing but in the prevention of slums.

TOWN PLANNING INSTITUTE

Establishment of Municipal Air Ports.

MR. E. WILLIS (president) was in the chair at a meeting of the Institute held at Caxton Hall, S.W., on December 14, when Major R. H. S. Mealing (Directorate of Civil Aviation, Air Ministry) read a paper on "The Establishment of Municipal Air Ports in Great Britain."

The President, in introducing the lecturer, said the provision of aerodromes was absolutely essential in this country, and it was most important in regional surveys that sites should be selected.

Major Mealing said that during the last twelve months a large amount of his time had been devoted to the question of the establishment of municipal air ports in this country. In that time he had inspected and reported upon nearly seventy sites, and in conjunction with these inspections he had always done what he could in the way of propaganda to further the cause of aerial transport. There were three parts into which he proposed to divide his paper—namely, why, where and how air ports should be established. What would happen to a town which did not possess an air port? Would it not be the old story over again of the town which, some sixty to eighty years ago said, "We don't want those dirty smelly trains here—let them go elsewhere." What was the state of some of those towns now. What was once a thriving town was now, comparatively speaking, an insignificant village, if it wasn't, colloquially speaking, "off the map." They knew it was the desire of every city and town to keep ahead of the times—how better could it do that than by providing itself with an air port? He was not stating a fable when he said that just as surely as every town served aviation by providing itself with an air port, so in time to come would aviation serve that town by making it prosperous. There was no doubt that sooner or later there would be two main line routes to London from the North. These might be called the east coast route and the west coast route. The east coast route would start from Edinburgh, stop at Newcastle and Leeds, and then fly straight to London. The west coast route would start from Glasgow, stop at Manchester and Birmingham, and then straight on to London. The total flying distance was, in both cases, as near as possible 360 miles.

In Great Britain there were only five Government air ports and landing grounds. There are certainly forty-five Royal Air Force aerodromes which could be used by civil aircraft, but only under certain circumstances. In Germany there were two hundred and fifty-four air ports and landing grounds, all of which were, of course, civil ones. In America there were in existence 367 municipal air ports, 331 private air ports available for public use and 754 more air ports were under consideration, the majority of which would, no doubt, be established.

Before saying anything about where an air port should be established he should refer to the fact that more than one municipality had informed the Air Ministry that as a Royal Air Force aerodrome was situated within a certain distance of their town they assumed that that aerodrome would be available for civil use and that therefore they saw no reason to go to the trouble and expense of establishing a municipal air port. He would explain straight away that it had been definitely decided that an R.A.F. aerodrome could not be used as a regular place of departure for civil aircraft—it could only be used in case of emergency and where, because there was no other landing ground available in that district, passengers could be disembarked or for refuelling. The factors which governed the location of a civil air port were:—(*a*) topographical; (*b*) climatic; (*c*) economic.

The first necessity under the heading of topography was a site which could be adapted to a good landing area, and a good landing area should have runways in all directions of 800 yards. If it was possible to find a site which would afford runways of 1,000 to 1,200 yards, so much the better, but 800 yards in all directions would suffice. The next point that arose was gradient—the average gradient in any direction either upwards or downwards should not exceed 1 in 50. It should be understood that when he referred to an average gradient of 1 in 50 he was referring to spot height levels taken off any convenient ordnance survey map. The surface of the landing area should be as smooth as possible. A most important point was that of approaches. All approaches to an air port should be free of obstructions such as church spires, chimneys, tall trees, etc.

We now approached the climatic factor. He had seen it stated many times that it was a good thing to have an air port situated near a river because the water was such a good landmark for the pilot to pick up. He said don't—unless that river was a fast-flowing one and was consequently situated somewhere above sea level. It was very seldom that the country in the vicinity of a river did not suffer from fog and fog was one of the few things that hope as they might for the future they had not yet got over in flying. On the other hand, although it was advisable to locate an air port on as high ground as possible in order to escape low lying fog, one should not go to the other extreme and place it on a very high plateau in such a way that on a day when the clouds were very low a pilot on taking off rose almost immediately into the clouds. A plateau was an excellent situation in many ways for an aerodrome, but not too high a one.

They now approached the last but not the least important factor—namely, the economic one. First, last and every time remember that the air port must be near the centre of the town which it was to serve. They would gain nothing by flying if at the end of the journey one had to travel a long way from the air port to his destination.

He would now deal with how the air port should be established, but let him explain straight away that it was not the policy of the Air Ministry to advise municipalities to spend money regardless of cost in the establishment of a huge and fully equipped air port without any regard to its possible use now and in the future. But the advice which was given very earnestly was: do reserve your ground—not to-morrow but to-day—in order to prevent its being built upon and thus lost for ever as an air port. They had powers under the Air Navigation Act, 1920, with the consent of the Air Council, to maintain and establish an aerodrome, and they had powers under the Town Planning Act, 1925, to reserve ground to use as public or private open spaces. He admitted that the expenditure would entail the sinking of a considerable sum of money for the time being, but it entailed only a small realisation of the future possibilities of aviation to see what kind of return was not only possible but more than probable in the future. The first requisite for any air port was a landing area and to mark it. The markings should consist of a landing circle constructed of chalk or concrete slabs so long as they were light in colour. The circle should be located at the centre of the best part of the landing area. It should not be smaller than 75 feet in diameter and the width of the circle should be 1-20th of its diameter. An ideal circle would be 100 feet in diameter and 5 feet wide, but that is not absolutely necessary. The name of the town should be marked on the ground in the same manner as the circle in letters measuring 20 feet long by 16 feet broad. The reason for marking air ports is to assist pilots to locate them easily. It was necessary that the surface of the ground should be hard and firm. An approximate but quite good test for that ground was to drive a fully laden 3-ton lorry over it and if there was no tendency for that to sink in one could say it was fairly safe to land the largest machines there. If the ground would not stand up to such a test, there was only one thing to do and that was to build runways or paths. These runways should measure not less than 500 yards long and not less than 100 feet wide, and they must be laid down in such directions that an aeroplane could land along and take off from them pointing in not less than 6 equal points of the compass and if possible 8 equal points of the compass. Those runways could be constructed of any material strong enough to stand up to the required pressure of ½ to 1 ton per square foot—such as clinker, tarmac, concrete, etc., but where any loose material such as clinker is used, it must be rolled, and it was necessary to bind the surface not only so that particles would not be sucked up into the propeller blades, but also to prevent its being torn up by the tail skid. He had no doubt that one day the whole surface of air ports would be concreted over.

Regarding the requisite buildings, etc., one should consider where they were going to be located. They must not interfere with aircraft landing and taking off, and yet must have easy and quick road access. Never should they be placed where they were in line with the prevailing wind. The measurements of the present-day machine varied in span from 30 feet to 91 feet, in length from 24 feet to 65 feet, and in height from 9 feet to 20 feet, so that the area covered varied from 720 square feet to 5,915 square feet. At Croydon aerodrome the span of the door opening of the new hangars was 150 feet, but it was not necessary that such large hangars should be erected at every air port. It was certainly advisable that the door opening should be not less than 100 feet, and the hangars should give an available area of not less than 6,000 square feet and a useful height of 30 feet. The construction could be of any material desired, but it should be fireproof. Whilst considering the requirements of the aeroplane one must remember the supply of fuel and oil. The actual fuel tanks could be situated anywhere convenient for the purpose of filling them, but they should be underground. The supply to the aeroplane should be by underground pipes to a delivery stand situated somewhere in front of the hangar. The next point so far as the aeroplane was concerned was repair facilities, and it was well to have any repair shops forming an annexe to the hangar. The passenger had to book his passage, so there must be booking-offices, and at least a buffet if not a restaurant was required. Waiting-rooms with lavatory accommodation were necessary. Just as railway companies had found it necessary to provide hotel accommodation at their termini, so would it in time to come be necessary to have a hotel at the main air ports, but that was not yet necessary. Electric light should be laid on to all buildings and arrangements should be made for heating the water supply to the hangar. This was necessary for washing down machines, etc. The question of night lighting would in the future have to be considered but not necessarily at this stage. Both the existing Government-owned air ports were equipped for night flying. This equipment consisted roughly of a beacon, a floodlight for landing by, boundary marking lights for demarcating the boundary and obstruction lights on all buildings, wireless masts and obstructions generally which without them would not be visible to the pilot by night.

He had endeavoured to describe the necessary adjuncts to any reasonably good air port, and the next question which arose was what was all this going to cost. He would be quite frank and say straight away he did not know. It was impossible to design a lay-out which would suit more than one site—every one must be treated according to circumstances.

Mr. G. L. Pepler, in proposing a vote of thanks to the lecturer, said he was a convinced believer in the future of aircraft in this country. In connection with town planning it was important to know what kind of property could be erected round an aero-

drome. The Americans appeared to think it was not a suitable neighbour for a residential district, and that it should be considered as an industrial type of concern.

Sir Richard Paget seconded the motion and asked if it was necessary to sterilise the whole of the large area necessary for an aerodrome. Could not the underground part of it be used for some purpose or other?

Sir Alan Cobham pointed out that they were opening up a new form of transport by means of which one could go direct from one town to another, and it was essential that in this country they should go ahead with flying, for the British Empire would be the greatest market in the world for aircraft. No industry could, however, be created without a home demand, and hence they must force the home demand and build up an industry which could supply the forthcoming demands of the Empire.

Capt. Tymms and Mr. W. T. Lancashire also spoke in support of the motion.

Major Mealing, replying to questions raised, said no doubt in the future the area necessary for an aeroplane to land would be lessened. Tests were now being made to lessen the noise made by aeroplanes. He considered it better that private enterprise should be left to go ahead in regard to flying and fight its own battles. It was only in that way that it would become a paying proposition. The fact that the aerodrome would be a permanent open space should add to the value of the surrounding property.

INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?—ED.

Foot Cube Cost of Country Mansions.

SIR,—I shall esteem it a favour if you will let me know to-day's estimating prices per foot cube for country mansions built in best manner and substantial, including central heating throughout, basin and h. and c. in all bedrooms, electric lighting, stone front Georgian style, stone heavy balustrade to finish all walls to hide roof; walls 21 in. thick.

E. HAYES DASHWOOD.

Rust in Water.

SIR,—I have a hot-water system in my house which has been in use for eight months. Every time the water is heated it comes through the taps quite red with rust and a thick sediment is left behind. Could you inform me the reason for this and whether there is a remedy?

RUSTY.

Responsibility for Storm Damage.

SIR,—(*a*) In a continuous row of houses in a street (let it be assumed that the numbers of the houses are 29, 30 and 31, all different owners), house No. 30 has not been occupied for a considerable time and is in a wrecked and dilapidated state. The recent gales have blown the slates off the roof, and, with the roof over the houses being in one continuous stretch, this has caused the slates of the adjoining houses to become loose, and some slates have also blown off, with the result that water finds its way into the adjoining houses. Have the owners of Nos. 29 and 31 any claim for damages from the owner of No. 30? Can they compel him to repair his roof, or their roofs; and also, can the local authorities compel the owner of No. 30 to repair the roofs of the two adjoining houses?

(*b*) If the owner of No. 30 decides to remove his roof or pull the house down, can he be compelled by the adjoining owners or local authority to plaster and make the remaining gable-ends of the two houses waterproof? Please state what books are published relative to such matters, or the law relating to them, as the by-laws do not appear to cover such cases.

H. V. W.

Architects' Fees.

SIR,—What is the usual fee chargeable by architects, and when does this become due? If an architect prepares plans and obtains tenders, and the building owner from financial stringency is unable to proceed, does the full architect's scale of fees become payable to him?

NIKKO.

Model By-laws.

[REPLY TO "HOUSING," DECEMBER 14.]

SIR,—The original by-laws prepared under the Public Health Act, 1875, and issued in 1877, have been revised very many times. On revision, only a sufficient number of copies is printed as will last for a few months; and so that changes may be introduced as and when shown to be required. Revisions were made in 1919, and there have been several since. Copies may be obtained through the usual sources.

BY-LAW.

Thickness of Walls.

[REPLY TO "SUBSIDY," DECEMBER 14.]

SIR,—Whatever walls are composed of, they must be at least 9 in. thick for a domestic building. If built hollow, the width of the cavity is in all cases additional to the prescribed thickness, and its width is usually restricted. The roughcast outside, and the plaster on the inside, cannot be reckoned in the thickness, unless they can be considered as good hard and suitable incombustible material—which certainly the plaster cannot be said to be.

A local authority cannot dispense with its own by-laws, but under section 25 of the Housing, Town Planning, etc., Act, 1919, a local authority is, at present, empowered to grant permission for the erection of a house, and the use of it, if it complies with certain regulations made by the Minister of Health. Should the local authority refuse permission, there is a right of appeal to the Minister of Health. Provision is also made for the waiver of by-laws under section 99 of the Housing Act, 1925.

"Subsidy" should lay his proposition before the local authority concerned, with whom the decision rests; for, whereas since the war such a proposition has in many instances been sanctioned, the tendency now is to tighten up matters and keep rigidly to the by-laws made by the authority.

WALL.

THE WEEK IN PARLIAMENT

WESTMINSTER, *Wednesday.*

The Subsidy.

Mr. Chamberlain, the Minister of Health, in moving that the House of Commons approve of the Order reducing the subsidy under the Wheatley Act by £1 10s., abolishing the subsidy under the Chamberlain Act, as from September 30, 1929, pointed out that, in December, 1926, the House approved a similar Order, the effect of which was to reduce the contributions payable in respect of the 1923 houses from £6 a year for 20 years to £4, and, in the case of the 1924 houses, from £9 to £7 10s. a year for 40 years, or, in agricultural parishes, from £12 10s. to £11. The reason why he came to that decision was that there was a definite relation between the amount of the subsidy and the cost of building. In July, 1921, when the decision was made to shut down the Addison scheme, the price of non-parlour houses, on the average, was £665. By December, 1922, the price had come down to £346 a house. In April, 1923, the new Housing Bill was introduced with a subsidy which was equivalent to about £75 per house. A month afterwards the price rose from £346 to £368, and, by January, 1924, it had gone up to £386. A further Housing Bill was introduced, and there was an increased subsidy equivalent to about £160 per house. In a month the price went up by £52 to £438, and later it reached £461. There it remained until 1926. In the March quarter of 1927, after the cut was made, the price decreased to £425, and since then it had fallen steadily, until in the September quarter of this year it had come down to £360. To anyone who was not blinded by prejudice, only one conclusion could be drawn from those events.

With regard to the output of houses, it had been suggested that the reduction in the subsidy had stopped building. The numbers of State-assisted houses completed in each quarter of 1926, before the alteration in the subsidy, were: March, 28,000; June, 34,000; September, 41,000; and December, 40,000. In the March quarter of 1927 the figures went down to 38,000; in the June quarter they rose to 44,000; in the September quarter to 90,000; and in the December quarter they dropped to 24,000. The present year had been characterised by a rapid increase in the output, so that by September of this year they were within 5,000 of the output of the quarter which ended March, 1927. Naturally, the tremendous scramble that took place in all localities just before the reduction in the subsidy became operative to try and get as many houses as possible finished before the subsidy came down was followed by a reaction. But reaction was only temporary, and it was surprising how temporary it was, seeing that in September of this year we were nearly back to the figure of March, 1927. The total output in the three quarters of this year was 77,477, or nearly half as many again as for the whole of 1924. Of course, he would much rather that there had not been even that temporary disturbance, and it was possible that the result might have been achieved if he had not given such long notice to the local authorities, but that would certainly have evoked strong protest on their part. They might console themselves with the reflection that the result had been that many thousands of people got into their houses many months sooner than they would have done if there had not been that tremendous effort last September.

He had seen statements that the result of the 1926 Order had been to throw out of employment a large number of people in the building industry. The number of unemployed in the industry for Great Britain and Northern Ireland was 105,961, but on December 20, 1926, it was 108,503. The skilled men now unemployed numbered 36,577, but in December, 1926, they numbered 41,427. He was satisfied that it was now safe to remove the 1923 subsidy altogether, and leave these houses to be built by private enterprise, with the help of the loan facilities allowed under the 1923 Act, of which local authorities had taken advantage to the extent of some £20,000,000. He did not expect that, as a result of the Order, there would be a second fall in the price of houses to the same extent, but he was not satisfied that even now the price had reached the bottom level. So far as the building industry was concerned, he believed that if all subsidies and restrictions on building were removed, the industry would heave a sigh of relief, and would be glad to get back to normal conditions.

In the debate which followed, members of the Opposition criticised the decision of the Government, urging that it would lead to an increase of rents and rates, a lowering in the standard of building, and a reduction in output.

Sir Kingsley Wood, the Parliamentary Secretary to the Ministry of Health, replying, said that the reduction in the subsidy had produced houses at a lower cost and lower rents. There was not a word of truth in the allegation that inferior material was being used in the construction of houses since the cut in the subsidy. No attempt whatever had been made to lower the standards of quality of house-building. It was perfectly natural that local authorities should be now turning to smaller houses, but the average reduction in size since the cut in the subsidy was simply 25 square feet.

The motion to approve the Order was carried by 241 votes to 146.

THE BUILDING TRADE

EVERYDAY SCIENCE FOR ARCHITECTS AND BUILDERS—XLVI

BY A. M. GILES, B.Sc., A.I.Struct.E., A.M.I.E.E.

Metals.

SPEAKING generally, chemical elements may be divided into two classes, viz., metals and non-metals. Among the non-metal group are such substances as carbon, sulphur, silicon, phosphorus, chlorine, etc., while among the metals are included those with which we are more familiar, such as iron, lead, zinc, tin, copper, etc., and about which there is much chemical knowledge that cannot fail to be of use and interest.

Nearly all the elements combine with oxygen to form oxides. The oxides of non-metals usually combine with water to form "acids." For example, carbon combines with oxygen to form carbon dioxide (CO_2), and this dissolves in or combines with water to form carbonic acid (H_2CO_3), hence the reason for calling the gaseous oxide (CO_2) carbonic acid gas.

$$CO_2 + H_2O = H_2CO_3.$$

Again, sulphur combines with oxygen to form sulphur trioxide (SO_3), and this combines with water to form sulphuric acid (H_2SO_4).

$$SO_3 + H_2O = H_2SO_4.$$

Silicon is another non-metallic element, which combines with oxygen to form oxide of silicon (SiO_2). This oxide, known popularly as "silica," is very widespread, and is the main constituent of sand and sandstone. Silica combines with one molecule of water to form silicic acid, or meta-silicic acid, as it is more correctly called.

$$SiO_2 + H_2O = H_2SiO_3 \ (H_2O \ . \ SiO_2).$$

Non-metallic oxides are therefore often called "acidic oxides," or acid-forming oxides.

Bases.

The oxides of metals form a class of compounds known as "bases." These are generally insoluble in water, *e.g.*, those of lead (PbO), and iron (Fe_2O_3). There are two or three though, such as the oxide of calcium—lime—(CaO), of potassium (K_2O), and of sodium (Na_2O), which will dissolve in or combine with water. These oxides are called "alkalis," and, when combined with water, will produce liquids having properties entirely distinct from those possessed by acids; *e.g.*, one of the tests for an acid is that it will turn blue litmus red, whereas by the addition of an alkaline solution the red colour will be again changed to blue.

Salts.

Further, metallic oxides will combine with acids to form another class of substances called "salts." One of the most common and probably the one from which this class of compounds obtained its name is ordinary table salt. This is formed by the interaction of hydrochloric acid (HCl)—sometimes called "spirits of salts," and used by the plumber—and caustic soda (NaOH), which is formed by the combination of the oxide of sodium (Na_2O) with water, according to the equation :—

$$HCl + NaOH = NaCl + H_2O.$$

NaCl is common salt and its chemical name is sodium chloride.

In a similar way other salts are formed by the chemical interaction of a metallic oxide, *i.e.*, a base, with an acid, *e.g.* :—

$$Ca(OH)_2 + H_2SO_4 = CaSO_4 + 2H_2O.$$

Calcium sulphate ($CaSO_4$) is the salt formed by the interaction of sulphuric acid (H_2SO_4) with calcium hydrate or hydrate of lime ($Ca(OH)_2$), *i.e.*,

base + acid = salt + water.

It is hoped that the above explanations, though condensed, will be clear and understandable, since, in dealing with metals and their compounds, they will often be mentioned. To deal with the various metallic elements would take very much more time and space than we have at our disposal. It is therefore proposed to consider, somewhat concisely, the more common metals such as iron, lead, zinc, copper, and tin.

Iron.

The chemical symbol for iron is Fe; its atomic weight is 56; its specific gravity is approximately 8, which means that it is about eight times heavier than water and therefore weighs about 500lb. per cubic foot; its melting point is 1200 deg. C. The history of iron is a long story; it is said that iron implements were used in prehistoric times; further, meteorites containing iron were supposed to have been sent from heaven as a gift of the gods to mankind. Nowadays, iron is obtained from iron ores, though small quantities of metallic iron are found in certain rocks, and a large mass of over 20 tons is reputed to have been found in Greenland. Since, however, iron rusts so easily in a damp atmosphere, its occurrence, in a metallic form, must be most rare.

Its most common ores are red hæmatite (Fe_2O_3); brown hæmatite, the formula of which is almost the same as that of red hæmatite since it is Fe_2O_3 combined with a certain amount of water; magnetite or lodestone (Fe_3O_4) which is a natural magnet and which is very rich in iron, containing as much as 72 per cent.; carbonate of iron or ferrous carbonate ($FeCO_3$), known also as "siderite." It occurs in most of our coalfields, which are probably the source from which most of the iron is obtained in this country. There is also iron pyrites, which is a compound of iron and sulphur (FeS_2). This ore, however, is not worked very much for the extraction of iron, since there is always the difficulty of getting rid of the sulphur.

Only brief reference can be made to the metallurgy of iron, or the extraction of iron from its ores. The process is really one of "reduction," *i.e.*, the ores, mostly oxides, are heated or calcined with large quantities of carbon in the form of coke. This combines with the oxygen forming oxides of carbon, and the molten iron is run off into moulds in which it solidifies and is known as pig-iron. The varieties of iron are "cast" iron, "steel," and "wrought" iron. Their difference lies mainly in the amount of carbon each contains. It is thought by many that some of the carbon actually enters into chemical combination with the iron.

Cast iron may contain 1½ to 4½ per cent. of carbon. It does also contain as impurities some phosphorus and sulphur, and also a comparatively large quantity of silicon. It is brittle and has low tensile strength, in fact its tensile strength is about one-fifth of its compressive strength. Steel is iron containing less than 1½ per cent. of carbon; it is hardened by heating and then suddenly cooling it in water. Wrought iron is the purest form of iron, as it contains less than one-quarter per cent. of carbon. It is sometimes known as soft iron, is easily worked, or has great malleability. Mild steel, great quantities of which are now used for constructional purposes, contains less than one-half per cent. of carbon. Its tensile strength is about 30 tons per sq. in., and the working strength is taken as 7½ tons per sq. in.

Lead.

The chemical symbol is Pb; its atomic weight is 207; its density is 707 lb. per cu. ft.; its specific gravity is 11.4; and its melting point is 327 deg. C. Lead, like iron, has a very ancient history, for it was known to the Egyptians and used by the Romans for making water-pipes. Some authorities tell us that there are found in nature almost 20 ores containing lead. By far the most common is its combination with sulphur to form lead sulphide. This ore is known as galena, and its chemical formula is PbS. Most of the lead that is used nowadays has been extracted from galena.

Extraction.

Quantities of galena are roasted at a fairly low temperature in a continuous current of air. The oxygen of the air displaces the sulphur and combines with the lead to form lead oxide (PbO). At the same time, while the current of air continues, quantities of lead sulphate ($PbSO_4$) are also formed. The air supply is then cut off, and the roasting of the mixture of the three compounds, viz.: galena (PbS), lead oxide or litharge (PbO), and lead sulphate ($PbSO_4$), is continued, when large quantities of sulphur dioxide gas (SO_2) are given off and molten lead is left behind. This is finally run off into pots, and gives us "pig" lead as one of the commercial forms of lead.

Impurities.

Among the impurities found in lead prepared in this way are small quantities of antimony (Sb), tin (Sn), and copper (Cu). These make the lead hard and brittle. They are usually removed by further heating, when it is found that the impurities oxidise first and form a sort of scum on the surface. This process is often called the "softening of lead."

Properties.

Lead is a metal which, when freshly cut, has a bright lustre. This soon disappears when exposed to air, owing to oxidation. As in the case of iron, lead in perfectly dry air will not tarnish; moisture must be present, when the PbO that is formed eventually combines with the CO_2 of the air to form a protective coating of basic lead carbonate on the surface of the lead.

Lead is soft, and is easily pressed into pipes and rolled into sheets. It is also easily worked for roofs, cisterns, sinks, etc. The most important chemical compounds of lead, and those about which available information must be useful, are red lead and white lead.

The chemical formula of red lead is Pb_3O_4. It is usually described as a chemical combination of lead monoxide (PbO) and lead sesquioxide (Pb_2O_3), which gives Pb_3O_4.

$$PbO + Pb_2O_3 = Pb_3O_4.$$

Red lead is used by both plumber and painter, as well as in the manufacture of glass. It is also used as a cement for steam-piping. White lead is probably the most important lead compound. Its chemical name is lead carbonate, and its formula is $PbCO_3$. It is obtained by what is known as the "Dutch" process, and this is undoubtedly one of the most dangerous occupations for workpeople. When made, it is a fine white powder, though it is usual to buy it in the form of a thick paste, which is the white lead ground up with linseed oil.

Zinc.

Atomic weight, 65; symbol, Zn; melting point, 412 deg. C.; specific gravity, 7; and density, 446 lb. per cu. ft. The chief ores of zinc are zinc blende and calamine. Zinc blende is chemically-pure zinc sulphide (ZnS), and calamine is zinc carbonate ($ZnCO_3$). The extraction of zinc from these ores is different from that of iron and lead, in that the ores, after being partially roasted, are mixed with powdered coke in large

crucibles and then further heated until the metal volatilises or comes off in the form of vapour which collects in condensers, from which it is cast into ingots.

Zinc is hard and brittle at ordinary temperatures, but at about 140 deg. C. it can be rolled into sheets. Curiously enough, it again becomes very brittle at just over 200 deg. C. It readily oxidises to ZnO, which is the cause of its tarnishing on exposure to moist air. This oxide forms a protective coating, and articles used by the plumber, such as cisterns, soil-pipes, rain-water pipes, etc., are largely made of iron coated with zinc. They are said to be galvanised. The iron materials, after having been cleaned with dilute spirits of salts, are dipped in baths of liquid zinc.

Copper.

Chemical symbol, Cu; atomic weight, 63; specific gravity, approximately 9; density, about 555 lb. per cu. ft.; melting point, about 1,050 deg. C. Its chief ores are cuprite, Redruthite, and copper pyrites. Cuprite is a red oxide of copper (Cu_2O), and contains a very large percentage of copper. Redruthite, as its name suggests, is found in Cornwall. It is a sulphide of copper (Cu_2S). Copper pyrites is a yellow copper ore, and is a combination of the sulphides of copper and iron ($Cu_2S.Fe_2S_3$).

To extract the copper from its ores, the ore is first crushed and washed, and then roasted in large reverberatory furnaces, from which it is run off to form what is called coarse metal. This is further purified by being again melted, and then cast into flat ingots, weighing between 20 and 30 lb.

Copper is a fairly tough but ductile and malleable metal. Neither dry nor moist air will affect the high polish of its surface, though carbonic acid gas and other acid-forming gases in the atmosphere cause a green coating of "verdigris," which is a basic acetate of copper, or, according to some authorities, a basic copper carbonate ($CuCO_3.Cu(OH)_2$). The basic acetate can be easily obtained by the action of acetic acid or vinegar on copper in the presence of air.

EXTRA-CONTRACTUAL LIABILITIES OF EMPLOYERS AND CONTRACTORS—III

In the second article under this heading we referred to the liabilities incurred by owners and contractors in respect of persons coming upon the premises, and the subject is a somewhat complicated one, as the degree of liability varies with the nature of the invitation or licence extended to the person in question.

Persons Coming Upon Premises.

For legal purposes, persons coming upon premises are divided into three categories—(1) trespassers, (2) licensees, and (3) invitees. Before entering in detail into the cases it may be well to define the distinction between a licensee and an invitee, and we cannot do better than cite the definition given by Lord Sumner in the case Mersey Docks and Harbour Board *v.* Procter (1923, A.C. 253; *The Builder*, April 27, 1923). He there said that the leading distinction between an invitee and a licensee was that in the case of the former, invitor and invitee have a common interest, whilst in the latter licensor and licensee have none, and a licensee takes premises which he is permitted to enter just as he finds them, with the one exception that the occupier must not lay a trap for him nor expose him to a danger not obvious nor to be expected there under the circumstances.

As regards the invitee, the definition was laid down long ago in Indermaur *v.* Dames (1867, L.R. 2 C.P. 311), and again approved in the above case that he, using reasonable care on his part for his own safety, is entitled to expect that the occupier shall on his part use reasonable care to prevent damage from unusual danger of which he knew or ought to have known, and where there is evidence of neglect the question whether such reasonable care has been taken, by notice, lighting, guarding, or otherwise, and whether there was contributory negligence on the part of the sufferer is a question of fact.

As Lord Shaw of Dunfermline said in the Mersey Docks case, "the refinement of distinctions between these two categories are notorious," and they can only be gathered from the decided cases. As to what is described above as an obvious danger, Lord Wrenbury, in Fairman *v.* Permanent Investment Building Society (1923, A.C. 74), said, primarily a thing is for this purpose obvious if a reasonable person using reasonable care would have seen it, but there are some things which a reasonable person is entitled to assume, and he instanced the case of a ladder used by a person at one time of the day from which, when he returned later, a rung had been removed, and said that would be a trap.

With these preliminary observations we will consider the liability of occupiers to the three classes of persons—trespassers, licensees, and invitees. As regards the trespasser, the liability seems confined to a concealed danger or trap placed near a place where he could lawfully be expected to be. Thus, in Hardcastle *v.* South Yorkshire Railway Company (4 H. and N. 67), it was laid down that when an excavation is made adjoining a public way so that a person walking along it by night by making a false step or being affected by giddiness, or in the case of a horse shying, might fall into it, it is reasonable that the person making the excavation should be liable for the consequences; but where the excavation is made at some distance from the way, so that the person falling into it would be a trespasser before he reached it, the case would be different. And in Barnes *v.* Ward (1847, 9 C.B. 392) it was held that, if a person on his own land excavates a hole abutting upon a highway so that the use of the highway may be rendered unsafe to persons using ordinary care, he is responsible. These are clearly cases of nuisance.

It would, however, appear that the person to be held liable must have either had knowledge of the existence of the nuisance or should have had knowledge if he exercised due care. In Herbert *v.* Barker (1911, 2 K.B. 633; *The Builder*, September 22, 1911) one of the rails in a railing protecting an area had been broken by boys playing football in the street, and a child got through this gap and was climbing along the inside of the railings when it fell into the area and was injured. It had been found by the jury that a sufficient time had not elapsed between the removal of the rail and the accident for the defendant to know of it, exercising reasonable care, and the Court of Appeal held that in these circumstances the defendant was not liable for the nuisance created on his premises by trespassers (the boys), and further, that the nuisance could not be considered the cause of the injury, as the child did not fall through the gap whilst using the highway, but met with the accident whilst climbing along inside the railings. As to knowledge of a nuisance, see also Noble *v.* Harrison (1926, 2 K.B. 332; *The Builder*, June 25, 1926).

In Cooke *v.* Midland Great Western Railway of Ireland (1909, A.C. 229), the railway company, on their land close to a public road, had a turntable only divided from the road by a fence with a well-worn gap in it. A young child trespassed on the company's land and played with the turntable and sustained serious injury. The House of Lords held that there was evidence to support the finding of the jury that the injury was caused by the negligence of the company in not keeping the fence in repair and in keeping a dangerous machine in such a state that children who, to the knowledge of the company, were in the habit of playing with it, were liable to injury.

In Lowery *v.* Walker (1911, A.C. 10), a farmer turned a horse, he knew to be savage, into a field of his, over which he knew that the public, without leave, were in the habit of passing to the station, and a member of the public was attacked by the horse and suffered injuries. The House of Lords held that the plaintiff being in the field without express leave, but with the acquiescence of the defendant, was entitled to recover damages.

The above cases must be compared with Latham *v.* Johnson (1915, 1 K.B. 258), where there was a building site which had been cleared of some old houses which did not adjoin any public highway, although access could be obtained to it by a path. The public had been allowed to walk across this land and children were in the habit of playing upon it. On the morning of the day in question a cartload of paving stones had been deposited by the defendants in an irregular pile, and a child was found sitting upon one of the stones with her hand crushed beneath another. The jury had found that there was no invitation, but that the defendants ought to have known that there was likelihood of children being injured by the stones, and Cooke and Midland, etc., Railway of Ireland was relied upon. The Court of Appeal distinguished that case as being decided upon special circumstances, there being in that case on the land where children were permitted to play a dangerous and attractive object a trap for children, whilst here there was neither allurement nor trap nor invitation.

Now, we think it is clear that in Lowery *v.* Walker, if not also in Cooke's case, the acquiescence introduced the element of a licensee into those cases, and this view is borne out by the very recent decision of the Court of Appeal in Coleshill *v.* Manchester Corporation (1928 1 K.B. 776; *The Builder*, February 24, 1928), where persons who were not prevented from using a road being laid out under a housing scheme were treated as licensees and not as trespassers, and, as we have stated above, licensees have only to be protected from traps. In Cooke's case the turntable was a trap for children, and in this connection we must draw attention to a passage from the judgment of Lord Sumner in Mersey Docks *v.* Procter (*ubi sup.*): "Concealed dangers, as the term shows, are relative to the knowledge and capacity of the person who suffers by them, and in this matter he must use his knowledge and his good sense reasonably and act accordingly. See per Lord Atkinson in Cooke's case." This appears a fact very important to be borne in mind by those who give permission for persons to enter their premises—the man in the street has not alone to be considered, but also the child in the street. The horse in Lowery's case was also a trap, because horses are not expected to be dangerous. It is also important to observe that as regards bare licensees, in darkness where they cannot see, whether or not there is a danger, they walk at their own peril (see per Lord Justice Atkin in Coleshill *v.* Manchester Corporation, *ubi sup*) unless they are deceived by something, such as a continuous line of lights which may imply an invitation (Oldham *v.* Sheffield Corporation, 1927, 136 L.T. 681).

We now come to the case of the invitee. We have explained his position above, that the occupier owes him a duty to use reasonable care to protect him from danger, and an action for negligence will lie if he fails in this duty unless the accident is caused by the contributory negligence of the invitee himself. The invitee and the invitor, as we have said, must have a common interest, but it is not always easy to determine the character in which the person enters the premises. Thus in Elliott *v.* Roberts (1916, 2 K.B. 518; *The Builder*, June 2, 1916), the Court below had

held a person in the following circumstances a licensee, but the Court of Appeal held him an invitee. A firm of contractors had entered into a contract with the London County Council to erect a school, the Council reserving to themselves the right to nominate certain special tradesmen, but the contract specifying that such tradesmen were to be deemed sub-contractors of the contractors. The contractors were to provide facilities to any such tradesmen, including the use of scaffolding. A workman of one of the specialists nominated by the Council had to come upon the premises and had to use the means of access across an opening in an upper floor of the building, consisting merely of two planks laid side by side. One of the planks slipped and the man was injured. The jury had awarded him damages as against the contractors, but the trial judge had entered judgment for the defendants, holding him to be merely a licensee, and, as there was no trap, not entitled to recover. The Court of Appeal held him to be an invitee and ordered a new trial that the question might be determined whether the defendants had taken reasonable care to protect him from danger which should have been known to them and whether the man had been guilty of contributory negligence.

In Sutcliffe *v.* Clients Investment Co. (1924, 2 K.B. 746; *The Builder*, December 26, 1924), the facts were very complicated. The defendants were the owners of a house under a lease which compelled them to do external repairs, and they had leased a suite of rooms to a tenant who was to do internal decoration and repair. This tenant had employed a firm to do certain decorations, and this firm had hung a heavy advertisement board on a balcony, and one of their workmen, when taking this down, went on the balcony, which collapsed and he was killed. It was found that this balcony was not demised to the tenant, that it was in a dangerous condition, which the defendants should have been aware of, that the danger was not obvious, that the deceased had not been guilty of any contributory negligence, and that the defendants knew that a signboard was being exhibited.

The work was being done with the knowledge of the defendants, and they were contributing to the expense. It will be seen that the tenant who granted the licence or invited the man on the premises had not the control of the balcony, but the Court of Appeal held that the man, as regards the owners, was a licensee with an interest, doing repairs in which both the tenant and landlord were interested, and this placed him in the same position as an invitee, and the defendants were liable.

The cases are multifarious, and our space only permits us to outline the subject; we must conclude this article by pointing out that even in the case of an invitee the invitation is limited to a place where the invitee might reasonably be expected to go, and does not extend to other parts of the premises (see Mersey Docks *v.* Proctor *(ubi sup)*).

Picture Gallery Illumination

An entirely new method of illuminating picture galleries has been adopted recently by the Parker Galleries, of 28, Berkeley-square, W. These famous galleries, first founded in the reign of George II., are now illuminated by a system incorporating silvered glass reflectors. The pictures hung here are of ships at sea, naval and military engagements, and other historical events. "Gecoray" silvered glass reflectors were tried and found to be the most suitable form of units for illuminating these pictures. These are equipped with "Pearl Osram" gasfilled lamps. A system of tilted suspension by counterweight and cord, aided by a special method of support, permits easy manipulation of each unit. The installation was carried out by Messrs. E. Wight & Co., of Finchley.

LONDON MASTER BUILDERS' ASSOCIATION

THE annual dinner of the London Master Builders' Association was held on Thursday, December 13, at the Hotel Victoria. Mr. R. L. Roberts, M.A., F.I.O.B. (president of the Association), was in the chair, and among the 400 or more who were present were Sir Walter Lawrence, Sir J. Walker Smith, Sir Giles Gilbert Scott, Professor A. E. Richardson, Lt.-Col. J. Mitchell Moncrieff, and Messrs. A. H. Adamson, T. P. Bennett, Maurice Webb, W. T. Plume, Herbert Welch, W. Bosworth, Ernest J. Brown, George M. Burt, James B. Cooke, G. A. Coulsdon, Percy C. Culver, Arthur C. Driver, A. B. Faulkner, G. Topham Forrest, F. J. Gayer, S. D. Purkiss Ginn, E. A. Good, G. H. Parker, E. J. Rimmer, C. M. Smeaton, Major R. I. Tasker, R. Tribe, Henry T. Holloway, and the Secretary, W. J. Rudderham.

The usual loyal toasts having been honoured, Lt.-Col. Cecil B. Levita, proposing "The London Master Builders' Association," said the importance of the building trade was inadequately recognised. When it came to pictures, music or literature, the public was always advised as to the name of the creator; but, unfortunately, a great monument of industry, skill and brain power, if it was the work of architect and builder, went down to history with its creators generally unknown to the public. Yet the great landmarks of the world in every country were the work of builders. He believed that London and other great cities to-day were creating monuments that would rank with some of the greater buildings of the past. He hoped for a time when a civic spirit would be engendered in the Londoner, a spirit which was absent to-day, if we might judge by the fact that some two-thirds of the electors for the L.C.C. did not vote. He appreciated as much as anybody the enormous difficulties that the building trade had been through during the last few years. During the War period no industry had suffered more from restrictions, and at the end of the War they found a position unparalleled in history: skilled workers were conspicuous by their absence, material was deficient, and yet the nation had never been in greater need of the building trade than at that time. Local authorities particularly had been and were face to face with the difficulties of the building situation. There were some who believed that building operations were best left to the building trade, and that the less the Government interfered with an industry the better. Nevertheless, at the period he was referring to, the building of houses had passed into the category of essential services which could not be supplied at a profit, and consequently, municipalities and the State had been forced into dealing with the matter. The London County Council, grappling with this problem, had finished their first post War cottage on October 24, 1921; and since that date something like 51,000 houses and flats had been delivered at the rate of about 80 a week. He looked upon that as a very great achievement, and still it did not take into account the block dwellings which had been produced especially to provide for those displaced by slum clearances. In this connection some 1,400 flats had been produced in addition to the cottages. In all this work, the help given by the building trade had been very great. The changes that had occurred in the building trade in a comparatively short time were extraordinary; since the days when builders only knew construction by carrying the weight on the walls, new methods had come into force requiring the structural engineer. Indeed, the builder to-day had to be not only a builder but an organiser of very considerable merit. In cottage construction an endeavour had been made to discover alternative methods to be applied in place of those almost universally used before the War. Here again very great strides had been made during the last few years, due in some degree to the very great advance that had been made in education during the last century. When it was remembered that less than 100 years ago the total Government grants towards education were some £12,000 a year for the whole country, and that to-day the maintenance estimates for the London County Council alone amounted to 13½ million pounds, an idea was obtained of the advance that had been made. We had reached an age when technical education was recognised as being just as important as cultural education, and the L.C.C. was lucky in having the assistance of the building trade in its Building Trade Schools, though he doubted whether there was as much interest taken by the L.M.B.A. in those schools as should be taken, and he thought greater advances would be made if the Association would take a greater interest in educational work than it did at present. His audience would be glad to hear that the consolidation of the Building Acts was now an accomplished fact. The L.C.C. were the greatest patrons of building in London, and since the War had spent approximately 30 million pounds in building.

The President, responding to the toast, said the story of the building trade in London during the past year had fortunately been uneventful — fortunately, because happy was the Association that had no history. In that connection history too often meant events and happenings we could do well without. The Association had had no legal action that year. They had had no large trade dispute, and although it was said peace had her victories not less renowned than those of war, those peaceful victories did not make an interesting story. A spirit of good will and co-operation which had for some time marked the negotiations between employers and operatives in the London district not only had received no check during this year but had, he thought, been strengthened and reinforced. Such difficulties as had arisen had been successfully adjusted. Not that there were no problems awaiting solution in the near future, for the rapid advance on the technical side of the industry, and the use of machinery in new fields, were creating great problems with regard to the adaptation of labour to that machinery. These problems would call for solution at an early date, but with good will on both sides there should not be any difficulty in solving them. The building trade might boast in these days, when industry in general was turning to methods of peace rather than to methods of war, that it had a history of steady growth in the belief in the value of settling disputes by voluntary negotiations. Both sides had accepted the view that all questions were capable of being settled without undue friction, with equity, and with due regard to the public interest. It was not to be imagined that joint committees could bring about an industrial Utopia, but it might be claimed from the experience of the building trades that if peace in industry were more general, some of our dreams of an England industrially prosperous might become more real. In this connection he would say that the bricklayers and masons had returned to the fold of the national agreement, but the plasterers still refused to acknowledge the authority of the National Joint Committee to settle wages and conditions. As far as the London Master Builders were concerned there should be no whittling away of their claim, and there could be no receding from the position that all crafts in the industry should honour the National Agreement. In the provinces the National Federation was attacking the plastering problem with considerable success, and in London the London Master Builders' Association were considering what method of peaceful persuasion they could bring to bear. He had just heard that the Minister of Health was taking another step towards ending the housing subsidy. Mr. Neville Chamberlain had said that if all subsidies and restrictions were removed from the building trade a sigh of relief would go up from that trade, and all present would agree with this. State interference was perhaps a necessary

evil, but the sooner it could be removed the better. There was a certain amount of shyness about mentioning the new form of contract, but he thought it was time it was brought out for an airing again; for it was now many months since a committee very representative of all the interests in the building industry had unanimously agreed on that new form of contract. The committee had sent that form of contract to its constituent bodies and had got the approval of the councils of those bodies. A form of contract affecting so many interests, public interests as well as those of the building industry, required careful examination and exploration before it was issued as the model form; but it was to be hoped examination and exploration were drawing to an end. The form of contract had been approved by a representative committee, declared fair and equitable to all interests by no less an authority than Sir William Mackinder, and received the approval of the London Press. It was to be hoped that it would soon be issued to be used up and down the country as the only equitable and proper form. With regard to what Lieut.-Colonel Levita said about education, it seemed to be true that, despite all the efforts of the last few years, the building trade did not take the interest in education and apprenticeship that it ought to do. The modern method of building made it difficult for builders to train apprentices either in their workshops or on their jobs in the first few years of their apprenticeship, and that fact should be recognised and other methods be looked to for training the future craftsman. The technical schools of London should be looked to for training apprentices in their first few years. The building industry took less interest in the technical education of its future craftsmen than any other in the country, and for the sake of the industry itself he appealed to master builders to give more encouragement in this direction. Building was known as a sheltered industry, and although that was a somewhat misleading term, certainly building was in a favourable position; and the more favourable that position the greater was the obligation to the public on the part alike of master builders and operatives. It was the duty of employers to organise their business, it was the duty of the operatives to give better output, and it was the duty of both sides to see that craftsmen were trained for the industry in sufficient numbers.

Mr. A. B. H. Colls, F.I.O.B. (Vice-President, L.M.B.A.), proposed the health of the guests. He said the Association delighted to welcome so many eminent architects and surveyors. They welcomed most heartily their friends from the National Federation of Building Trade Operatives. Among these was Mr. J. Murray. Master builders who came in contact with Mr. Murray knew him as a man who played the game.

Mr. Stuart Bevan, K.C., M.P., responded for architects, surveyors, engineers, and others.

Mr. John M. Theobald, F.S.I., also responded to the toast.

An excellent musical programme was given during the course of the evening.

The L.M.B.A. and the King.

On the occasion of this dinner the following telegram was sent to Her Majesty the Queen:—"The London Master Builders' Association and their guests at dinner at the Hotel Victoria humbly beg to offer your Majesty most loyal respects and sympathy, together with best wishes for his Majesty's recovery and ultimate return to his usual good health.—ERNEST BROWN, Director.

Following is a copy of the reply received on December 14:—"The Queen offers to the Association her grateful thanks for the most kind message of sympathy and earnest good wishes which the Association have addressed to her.—PRIVATE SECRETARY."

DEBATE ON HOUSING SUBSIDIES

THE debate on the reduction of the subsidies under the Housing Acts took very much the same course as that which we noticed in our issue December 10, 1926, when the subsidies were first reduced, except the experience of the last two years gave the Minister data which made his argument the more unanswerable and that argument, founded on actual facts, was the less easy for the opposition to answer.

Mr. Chamberlain showed that in July, 1921, when the Addison Scheme was shut down, the price of non-parlour houses averaged £665. By December, 1922, the price had come down to £346. When the 1923 Act was introduced with a new subsidy the price of such houses at once rose, and by January, 1924, was £386. In August, 1924, another Housing Act was passed with an increased subsidy equivalent to about £160 per house, as compared with £75 under the previous Act, and the price at once began to rise and reached £451, where it remained until December, 1926.

In the March quarter, after the reduction in 1926 had been made in the subsidy, the price decreased by £23, and fell to £425, and since that it had steadily fallen, until in the September quarter this year it stood at £360, a decrease of £88 per house. In face of these figures, it is hardly surprising that Mr. Wheatley hesitated to repeat his prophecy of December, 1926, that the reduction of 30s. in the subsidy under his Act was calculated to wreck the building trade and to plunge the country back into the chaotic conditions from which it escaped in the "harmonious year" of 1924, and was compelled to fall back upon his second line of defence: that the decrease in price was due to a decrease in the cost of building and lower wages, and that the lessening of the subsidy meant increased unemployment. Here, again, however, he found the Minister waiting for him, as Mr. Chamberlain dealt at some length with the output of houses and also with the question of unemployment.

As regards output, in 1926, before the subsidy was altered, the number of State-aided houses erected in the whole year was 143,000. In 1927, after the reduction in subsidy, the number was 196,000. The rush to secure subsidies, of course, created a reaction but the figures for the first three quarters of this year show a rapid increase in output, and the September quarter was within 5,000 of the output of the March quarter of 1927. These conditions seem hardly to agree with Mr. Wheatley's gloomy forebodings of a return to the chaotic conditions which preceded his brief term of office. Then as to unemployment, the Minister stated that in England and Wales the number of unemployed in the building industry in December, 1926, was 92,574, as compared with 94,324 this December, an increase of 1,750, but the skilled men now unemployed numbered 36,577, as compared with 41,427 in December, 1926.

The reduction already effected in the subsidy amounts to £25 in the Exchequer contribution, to which must be added the reduction in the local contribution of half that sum, making £37 10s together. The fall in price of the non-parlour house is £88, or a net reduction of £50 10s per house, so Mr. Wheatley's contention that what is saved on the price of houses will be swallowed up in unemployment payments seem hardly well founded.

At the time of writing the debate is not concluded, but as regards rents the Minister asserted without hesitation that the reduction in the subsidy would certainly not increase rents, and in this connection we may remind our readers that in 1926 the Minister stated that after careful inquiry he found there was no difference in the rents charged for houses erected under the increased subsidy paid under the Wheatley Act and those erected under the Act of 1923. Private enterprise has more than vindicated itself throughout in every way, and we think it will not regret being no longer under the stigma of being a subsidised industry.

TIMBER SUPPLIES

NEGLECT OF IMPERIAL RESOURCES.

A CONFERENCE of members of the Reading and District and Basingstoke Associations of Building Trade Employers was held at the Masonic Hall, Reading, on the 29th ult., when Mr. Alexander L. Howard, J.P., gave an address on "Timbers of the Empire." Colonel F. R. Hybart (Chairman of the Reading and District Building Trades Employers' Association) presided, and among the many builders and architects present were Mr. A. S. J. Elliott, Mr. W. E. Collier, Mr. J. Catley, Mr. H. Hutt, Mr. J. S. Paton (Reading Town Council housing architect), Mr. Alfred Cannon (secretary of the Southern Counties' Federation of Building Trades and Employers' Associations), and Mr. A. T. Doe (secretary of the Reading Association).

Mr. A. L. Howard said that last year Great Britain paid forty to fifty millions sterling for timber purchased, and of that sum only four million pounds was spent in purchasing timber within the Empire. Those figures struck one as requiring a great deal of thought and attention, especially when one realised that in actual fact we were the potential owners of the largest forest tract in the world. A wealth of timber from every part of the world was thrown at us and exposed to sale at high prices, yet we had timber of our own, of which we ought to make use of. In the choice of woods, the country seemed bound up in walnut, oak and mahogany. At the present moment forty different timbers were called mahogany and were not mahogany at all. He could remember dozens of beautiful woods which could be purchased for a mere song when first introduced, because the public in those days could not be persuaded to buy and use them. Now the same woods, but under different names, were sold at ridiculously high prices.

The speaker emphasised the importance of seasoning, and said that if the new wood were handled intelligently and its qualities considered, many of the difficulties would disappear. The finishing of wood was also equally important. One idea British people had of polishing wood was to put on what was called French Polish, which was often only the painting on wood of a thick layer of coloured stuff. It was not necessary to put French polish on some woods, and if polishing were more carefully considered it would be found that new woods could be called by their own names, thus preventing the exploitation of other names to attract interest. Referring to the merits of English oak, the speaker said there was no wood in the world comparable to English oak, which stood unchallenged as to strength and durability. It was time that they set to work to see how best they could handle the timber question so that they spent forty to fifty millions within the Empire for their timber and only four millions for foreign wood.

The address was illustrated with lantern slides showing timbers in various parts of the Empire.

A vote of thanks was accorded the lecturer on the proposition of Mr. A. S. J. Elliott, seconded by Mr. Hutt.

R.S.I. Health Exhibition, Sheffield.

A health exhibition will be held in connection with the fortieth congress of the Royal Sanitary Institute, to meet at Sheffield from July 15-20, 1929. Plans of the Cutlers' Hall, where the exhibition will be held, may be obtained from Mr. J. W. Dudley Robinson, 90, Buckingham Palace-road, S.W.1, as well as full information as to the various classes of the exhibits.

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Accrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Aldershot	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Alfreton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Alnwick	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Altrincham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashford Kent	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Ashington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashton-under-Lyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Aylesbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Aylsham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barnstaple	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Barrow-in-Furness	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Basingstoke	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Berwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bexhill	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bishop Auckland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackburn	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackpool	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bolton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bradford-on-Avon	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Braintree	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bridlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bromsgrove	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bromyard	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bungay	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Burnley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Burton-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Buxton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Cardiff	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Carlisle	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chatham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Chelmsford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chesterfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chorley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cirencester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Clacton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cranbrook	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cromer	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Darlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Derby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Devizes	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Dewsbury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Doncaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Dorchester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Dorking	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Driffield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Droitwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
E. Glam. (Mon. Val.)	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ely	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Exeter	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2
Exmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Fakenham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Felixstowe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Glossop	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Goole	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Gosport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grantham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Great Yarmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Grimsby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Guildford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Halifax	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harpenden	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Harrogate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hartlepools	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hednesford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hereford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Herne Bay	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Huddersfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hull	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hunstanton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Huntingdon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Isle of Wight	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Ipswich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Keighley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
King's Lynn	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lancaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Leeds	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leicester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leighton-Buzzard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Lichfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lincoln	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Littlehampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Llanelly	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
London:								
12 m. radius	1/9	1/9	1/9	1/9*	1/9	1/9	1/8	1/4
12-15 m. radius	1/8½	1/8½	1/8½	1/8½*	1/8½	1/8½	1/7½	1/3½
Loughborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Lowestoft	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Maidstone	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Malvern	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Manchester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Mansfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harb'rough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Matlock	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Melton Constable	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Melton Mowbray	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6	1/2
Merthyr Tydfil	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Middlesbrough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newark	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newcastle-on-Tyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newcastle-ur-Lyme	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
New Forest	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newport, Mon.	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Nottingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Nuneaton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Paignton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Peterborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Pontypridd	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Portsmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Preston	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Redditch	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ripon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochdale	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Rochester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Rugby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sawbridgeworth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Saxmundham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Scarborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sevenoaks	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sheffield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sittingbourne	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Southport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
South Shields	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stevenage	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stockport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stockton-on-Tees	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stoke-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stourbridge	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stowmarket	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Stratford-on-Avon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stroud	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Sunderland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swaffham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Swansea	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swindon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Tamworth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Taunton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Thetford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Torquay	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Totnes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4	1/0½
Trowbridge	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Uttoxeter	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wakefield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wallsend	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Warminster	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Warrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Welwyn Gar. City	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Bromwich	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Weston-sup.-Mare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Weymouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Whitby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wigan	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Winchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wisbech	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Wolverhampton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Woodbridge	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Worcester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worksop	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worthing	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wrexham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wroxham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wymondham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
York	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½

* The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, is 1/9½ plus travelling expenses, equalling 2/- a day and 1/- for Saturdays, whether employed in shop or on job—day or night work.

For rates of wages in the Building Trade in Scotland, see page 1038

NEW BUILDINGS IN LONDON

Aldgate.—ADAPTATION.—Messrs. W. Abbott & Son, Ltd., boot manufacturers, have acquired premises in Aldgate and Minories, E., for adaptation as a branch showroom.

Bethnal Green.—TENEMENTS.—The tender of Messrs. Rowley Bros., Ltd., of Tottenham, have been accepted for the erection of 50 tenements, with accommodation for 320 persons. The buildings will be erected on the Collingwood estate, Bethnal Green, E., for the London County Council. The price of the tender is £26,656.

Chiswick.—OFFICES.—The Gas Light and Coke Co. have decided to build a block of showrooms and branch offices on a site in Chiswick High-road, W.4. The contractors are Messrs. Chinchen & Co., Wellington-road, N.W.10. The plans have been prepared by Mr. Walter Tapper, P.R.I.B.A., 10, Melina-place, St. John's Wood, N.W.6.

Cornhill. — OFFICES. — The L.C.C. have agreed to plans for the erection of new offices at Nos. 25-27. The architects are Sir Aston Webb, P-P.R.A., & Son, 19, Queen Anne's-gate, Westminster, S.W.

Croydon.—ENLARGEMENT.—The school on the Waddon Housing Estate, Croydon, is to be enlarged to take 640 more children.

Ealing.—FLATS.—Plans for the erection of ten blocks of four flats at Longdrive, Greenford. have been prepared for the British Bath Co., Ltd. Mr. J. H. Sagar, of Railway Bridge, Metropolitan Station, Ruislip, is the surveyor for the work.

Ealing.—MILL.—The Wall Paper Manufacturers, Ltd., High Holborn, W.C., have issued instructions for the preparation of plans for a new mill on a site at Perivale, W. The architect is Mr. A. S. R. Ley, F.R.I.B.A., 214, Bishopsgate, E.C.3.

East Sheen.—SCHOOL.—The Higher Education Committee of the Middlesex C.C. have issued instructions for the preparation of plans for the proposed East Sheen Secondary School for Girls. The architect is Mr. H. G. Crothall, F.R.I.B.A., 87, Tothill-street, S.W.1.

Finchley. — ADDITIONS. — The Finchley Dance Hall is to be enlarged by the addition of a new hall, banqueting and reception rooms, etc. The designs have been prepared by Messrs. Yates, Cook & Darbyshire and Mr. Roland Hill, 43, Great Marlborough-street, W.1.

Fulham—BUILDING.—Messrs. G. Elkington & Son, architects and surveyors, 7, Laurence Pountney-hill, E.C.4, have prepared plans for a new building at 81-83, High-street, Fulham, S.W.

Great Smith-street.—ALTERATIONS.—Additional stories, with extensive interior alterations, are being made to the premises in Great Smith-street and Dean's-yard, S.W.1, of the Queen Anne's Bounty. The builders are Messrs. J. Carmichael (Contractors), Ltd., Trinity-road, Wandsworth, S.W. The architects are Messrs. Nichols & Hughes, 4, Raymond-buildings, Gray's Inn, W.C.

Gunnersbury.—HALL.—Funds are being raised by the Rev. Bevill Close for the purpose of erecting a new parish hall at St. James's Church.

Hampstead.—SHOPS.—A block of lock-up shops, with residential flats above, is to be erected upon a site at the corner of Lyttleton-avenue and Hill-rise, N.W. The builders are Messrs. Garsubil, Ltd., 5, Temple Fortune-arcade, Hampstead Way, N.W.11. The plans have been prepared by Mr. Cecil G. Butler, A.R.I.B.A., Golders Green, N.W., architect to the Second Hampstead Tenants, Ltd.

Hampstead.—TELEPHONE EXCHANGE.—Tenders are being invited for the erection of a telephone exchange at Hampstead, N.W., for the Commissioners, H.M.O.W.

Hendon.—SCHOOL.—The London County Council has sold a site in Montrose-avenue and Playfield-road to the Vicar of St. Alphage, for the erection of a central school.

High Holborn.—BUILDING.—Plans have been prepared for the erection of an office building upon the site of No. 234. The architect is Mr. Herbert A. Welch, F.R.I.B.A., 7, New-square, Lincoln's Inn, W.C.

Jermyn-street. — RECONSTRUCTION. — Arrangements are being completed for the reconstruction of No 81 The surveyors and agents are Messrs. F. & W. Stiles, 170, Piccadilly, W.1.

Kingley-street. — SHOWROOMS. — The St. James's Property Co., Ltd., 17, Great Marlborough-street, W.1, have decided to reconstruct No. 10, for conversion into shops, showrooms and offices, with a large garage in the rear. The builders are Messrs. Townsends (Builders), Ltd., 24, Dean-street, W.1. Plans have been prepared by the company's surveyor.

Lewisham.—SCHOOL.—The London County Council have recommended £30,645 in respect of the erection of an elementary school on site 7, at Downham, Lewisham. Messrs. Holland & Hannen and Cubitts, Gray's Inn-road, W.C.1, have secured the contracts.

Little Pulteney-street.—PREMISES.—New shop and showroom premises are to be built adjacent to the new Lex Garage. The builders will be Messrs Townsends (Builders), Ltd., 24, Dean-street, W.1. Steelwork will be by Messrs. H. Young & Co., Ltd., Nine Elms, Battersea, S.W. The architect is Mr. A. Rubens Cole, 24, Dean-street, W.1.

Maida-vale.—ADDITIONS.—Alterations and additions are to be made to premises for conversion into a local branch for the National Provincial Bank, Ltd. The builders are Messrs. J. Simpson & Son, Ltd., 48, Paddington-street, W.1. The plans have been prepared by Mr. J. Reeve Young, A.R.I.B.A., 3, Bedford-square, W.C.1.

Mark-lane. — IMPROVEMENTS. — The Corn Exchange Company are seeking Parliamentary powers for the amalgamation of its exchange with the adjacent London Corn Exchange, which will involve considerable alterations and structural improvements. The company's architects are Messrs. Elms & Jupp, FF.R.I.B.A., 25, Sackville-street, W.1.

Peckham.—REBUILDING.—Mr. G. Topham Forrest, F.R.I.B.A., has prepared plans for the rebuilding of Holydale-road school for the L.C.C. The work is estimated to cost £19,134.

St. Pancras.—FLATS.—Mr. A. J. Thomas, F.R.I.B.A., architect to the St. Pancras Borough Council, has prepared plans for the Council for 26 flats and four shops on the site of 7 and 9, Camden-road, N.W.1, and the Council are to apply to the London County Council for sanction to borrow £22,571, which is the estimated cost of the scheme.

Sydenham.—TELEPHONE EXCHANGE.—H.M. Office of Works have prepared plans and are inviting tenders for the erection of a telephone exchange at Sydenham, S.W.

Upper Woburn-place.—PREMISES.—In connection with the paragraph which appeared under this heading in our last issue, we stated that Messrs. Sheppard & Harris were erecting shops and offices. This we are sorry to say is not correct as there are to be no shops and the architect is Mr. J. M. Sheppard, F.R.I.B.A., 38, Bedford-place, Bloomsbury-square, W.C.1.

West Ealing.—BANK.—A new office and bank premises are to be erected at Nos. 78 and 80, Northfield-avenue, W.13, for the Westminster Bank, Ltd.

Whitechapel.—ADDITIONS.—Alterations and additions are to be made to the wards at St. Peter's (Whitechapel) Hospital, E.1. The plans have been prepared by Mr. E. S. Ruthven, A.R.I.B.A., 33, Gt. James-street, Bedford-row, W.C.1.

Windmill-street.—The business premises at No. 31 are to be rebuilt to the designs of Mr. A. Rubens Cole, 24, Dean-street, W.1. The builders are Messrs. Townsends (Builders), Ltd., 24, Dean-street, W.1.

NEW CINEMAS

Fleetwood.—Mr. Richard Roskell, builder, Birch-street, has acquired a site in Poulton-road, where he proposes to erect a new cinema.

Glasgow.—A site in the Crow-road, Partick, near to the Dumbarton-road, has been acquired by Messrs. Glasgow Tivoli, Ltd. (Mr. Thomas Ormiston, director), where it is proposed to erect a new cinema.

Manchester.—The management of the Popular Cinema, Chapman-street and Boston-street, Hulme, Manchester, are proposing to make extensions to their buildings. The plans have been prepared by Mr. Peter Cummings, A.R.I.B.A., 51, King-street, Manchester.

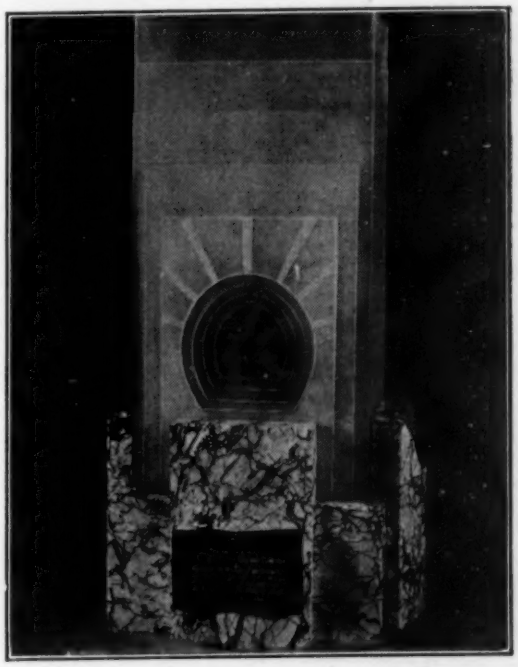
Manchester. — Mr. Peter Cummings, A.R.I.B.A., 51, King-street, Manchester, is architect for the new cinema to be erected on a site at Ashton New-road and Crabtree-lane, Clayton, first given in *The Builder* for September 7.

New Hunstanton.—Plans are before the U.D.C. for a cinema in Greevegate, next to Mansfield House.

Southall.—Plans have been passed by the Middlesex County Council for the erection of a super cinema on the site of the old Palace Theatre and the land adjoining in South-road, Southall. When complete the theatre will seat 2,000 persons on one floor. The architect in charge of the rebuilding scheme is Mr. George Coles, F.R.I.B.A., 40, Craven-street, Strand, W.C.2.

THE NEW PICCADILLY STATION

The Verreries d'Art Light, which is shown in the accompanying illustration, was presented to the Mayor of Westminster by the London Electric Railway Company, on the occasion of the opening of the new underground station at Piccadilly-circus on December 10. This novel light was used as an indicator, to denote the actual starting of the big escalators at that station. The Verreries d'Art Light was designed in keeping with the presentation. The base was in red and white marble, which supported the glass, which was made in several sheets, each one being cut out to form a receding tunnel on both sides of the lamp. On the first one, lines were engraved radiating from the tunnel opening; and on the last one, the word "Underground" was shown. The light stood about 2 ft. high, being 14 in. at the base. The name-plate, in bronze, which was fixed to the red and white marble base, bore an appropriate inscription.



CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.: Architect, A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc

DECEMBER 24

Barnoldswick.—Wall-boarding.—Also reseating of Ivory Hall Working Men's Club, Barnoldswick. Secretary.

Newcastle-upon-Tyne.—Heating.—Heating and electric lighting of the Red Barns Relief Offices, Crawhall-rd., for B.G. F. E. Dotchin, architect, 46, Grainger-st. West.

DECEMBER 26.

Godalming.—Cottages.—24 near Binscombe-lane, for T.C. G. B. Hartfree, B.S.

DECEMBER 27.

Carlisle.—Houses.—For 40 parlour and 12 non-parlour houses at Longsowerby estate; 14 parlour and 119 non-parlour houses at Newtown estate, and 22 parlour and 92 non-parlour houses at Botcherby estate, for T.C. P. Dalton, A.R.I.B.A., City E. and S

Manchester—Repairs.—For (1) pointing and repairs to stables, etc., at Wythenshawe-park; (2) repairs to hall, greehhouses, and lodges at Wythenshawe-park; (3) pointing and repairs to mesaroom, etc., at Boggart, Hole Clough; (4) repairs to stables, etc., at Bogart Hole Clough, for T.C. City Architect. Dep. 10s. 6d.

Middlesex.—Telephone Exchange.—Erection of, at Sunbury, Middlesex, for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

DECEMBER 28.

Caersws.—School.—Semi-permanent building for practical work and as a classroom, at Council school, for Montgomeryshire E.C. L. Phillips, Director and Clerk, County Education Offices, Newtown. Dep. £1 1s.

Cannock.—Electric Light.—Installation of electric light and power in County Mining College, Stafford-rd., for Staffordshire E.C. Moffett Rosher & Mann, consulting engineers, Union-chambers, Temple-row, Birmingham. Dep. £3 3s.

Dublin.—Fencing.—Dismantling and re-erecting a galvanised iron fence at Grangegorman, for C.B. City Engineer.

Sydenham.—Telephone Exchange.—Erection of, at Sydenham, for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

DECEMBER 29.

Amersham.—Enlargement.—Of Infirmary of the Poor Law Institution at Amersham. W. J. Standing, Clerk to the Guardians, Amersham, Bucks.

Great Sutton.—Cottages.—4 at Oakfield-rd., Hooton and Damage Bridge, Chester-Birkenhead-rd., for West Cheshire Water Board. A. J. Robinson, clerk and manager to Board, Water Board-buildings, Cross-st., Birkenhead.

Kent.—School.—Erection of a Central School at Bexleyheath, for the Kent E.C. E. Salter Davies, Dir. of Edu., Springfield, Maidstone, Kent. Dep. £2 2s.

Merthyr Tydfil.—Painting.—Reparation work, painting and decorating, etc., to Pontmorlais Welsh Calvinistic Methodist Chapel, High-st., Merthyr Tydfil. Johnson, Richards & Rees, architect and surveyors.

Whitby.—Alterations.—Chapel at cemetery, for Whitby and Hawsker-cum-Stainsacre Joint Burial Committee. R. F. White, clerk, 23, Baxtergate.

DECEMBER 31.

Amesbury.—Houses.—Allington, 2 pairs non-parlour type; Boscombe, 2 pairs non-parlour type; and Newton Tony, 2 pairs non-parlour type, for R.D.C. R. G. Vincent, S.

Belfast.—School.—At Barrack-st., for Christian Brothers. F. M'Ardle, architect and civil engineer, 29, Rosemary-st. Dep. £5 5s.

Eastbourne.—Extensions.—Erection of new wing to the Boys' Grammar School, comprising chemistry and physics laboratories, assembly hall and new entrance from Mill Gap-rd., for the E.C., Cty. Boro. of Eastbourne. Borough Engineer's Office, Town Hall, Eastbourne. Dep. £1 1s.

East Sussex.—New Secondary School.—Erection of, for 200 boys, at Lewes, in the County of East Sussex, for the East Sussex C.C. E. A. Verger, L.R.I.B.A., C.A., County Architect's Office, 173 High-st., Lewes. Dep. £3 3s.

Glasgow.—Painting.—Painter work required in connection with new bus garage, Butterbiggins-rd., for T.C. D. Stenhouse, T.C.

Northern Ireland.—Building.—Erection of three standard type barracks for Royal Ulster Constabulary as follows: (a) Glenarm, Co. Antrim; (b) Feeny, C. Londonderry; (c) Swatragh, Co. Londonderry, and for (d) reconstruction works at the R.U.C. Barrack, Newcastle, Co. Down, for Government. Secretary, Ministry of Finance, 15, Donegall-sq. West, Belfast. Dep. £1 each.

Reading.—Building.—Dressing rooms and lavatory accommodation at Palmer-park, for C.B. B.S. Dep. £2 2s.

Reigate.—Police and Fire Station and Baths.—Erection of, at Redhill, for the Reigate Borough Council. Town Clerk, Municipal Buildings, Reigate, Surrey. Dep. £2 2s.

St. Alban.—Conveniences.—At junction of Hatfield-rd. and Clarence-rd., for T.C. F. T. Negus, City E. and S., 38, St. Peter's-st. Dep. £1 1s.

St. Alban.—Cottages.—59, at Sandridge-rd. site, for T.C. F. T. Negus, City E. and S., 38, St. Peter's-st. Dep. £1 1s.

Stratford-upon-Avon.—Houses.—100, for T.C F. W. Jones, B.S.

JANUARY 1, 1929.

Glencairn.—School.—Small National school at Glencairn, on road from Ballyduff to Lismore. Father Prendergast, P.P.

Maldon.—Dwellings.—8, at Cripplegate, Southminster, for R.D.C. Wm. Almond, S., 6, Market-hill.

Northampton.—Repairs and Materials.—For Eastern Command of War Office. Commanding Royal Engineer, R.E. Office, Flagstaff-rd., Colchester.

JANUARY 2.

Dungannon.—School.—P.E. school at Killyman, near Dungannon, County Tyrone, for Regional E.C. J. Beatty, Secretary, Education Office. Dep. £2 2s.

Hawarden.—Offices.—New Council offices, for R.D.C. J. H. Davies & Sons, architects, 14, Newgate-st., Chester. Dep. £2 2s.

Manchester.—Boxes.—38 police boxes, for T.C. City Architect. Dep. £1 1s.

JANUARY 3.

Kensington.—Alterations and Additions.—To the male receiving ward at St. Mary Abbots Hospital, Marloes-rd., Kensington, W.8, for the Kensington Board of Guardians. Guardians Office, Marloes-rd., Kensington, W.8.

Stepney.—Conversion of Wards, etc.—At the St. Peter's (Whitechapel) Hospital, for the Stepney Board of Guardians. S. McClelland, clerk. Administrative Offices, Bancroft-rd., Mile End, E.1.

JANUARY 4.

Bristol.—Houses.—126, at Horfield Court housing site and 54 at Foxcroft housing site, Whitehall, for T.C. L. S. McKenzie, City E. and S., 51, Prince-st. Dep. £1.

Dublin.—Reconstruction.—Of Hangars and Barracks at Baldonnel Aerodrome, Co. Dublin, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works. Dep. £1.

London.—Extension.—Of the fifth floor, Carter-lane block, General Post Office (South) E.C., for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

JANUARY 5.

Bedford.—Cottages.—6, Bromham, 8, Stevington. F. R. Chapman, S. Dep. £2 2s.

St. Breward.—School.—Council school at St. Breward, for Cornwall E.C. B. C. Andrew, architect, New Inn Chambers, St. Austell. Dep. £1 1s

Stratford-upon-Avon.—Building.—Steel-framed building over purifiers, for T.C. F. Shewring, Gas Engineer and Manager, Gas Works, Birmingham-rd. Dep. £3 3s.

JANUARY 7.

Halifax.—Electricity Sub-Station.—Moor End-rd. housing site, for C.B. B.E. Dep. £1 1s.

Nottingham.—Extension.—To kitchen in tubercular ward, Bagthorpe Infirmary, Hucknall-rd., for T.C. W. B. Starr & Hall, architects, 12, Victoria-st. Dep. £2 2s.

JANUARY 8.

Gosforth.—Additions.—To Council-chambers, High-st., for U.D.C. G. Nelson, E. and S.

London.—Telephone Exchange.—Erection of, at Hampstead, N.W., for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

JANUARY 9.

Brighton.—Houses.—Erection of 208 on the Whitehawk Valley housing site, Brighton, for the Brighton Corporation. Borough Surveyor, Town Hall, Brighton. Dep. £2 2s.

JANUARY 14.

Dartmouth.—Houses.—40, for Corporation. B.S. Dep. £2 2s.

Derby.—Offices.—New offices adjoining the County Offices, St. Mary's Gate, for Derbyshire C.C. G. H. Widdows & G. C. Copestick, architects, County Offices, St. Mary's Gate, Derby. Dep. £1 1s.

Glass Houghton.—Installation.—Of electric light to Glass Houghton Ashton-rd. Council school and caretaker's house, for West Riding E.C. Education Department, County Hall, Wakefield.

Hambledon.—Alterations.—Also additions at "Holbrook," Shalford, for R.D.C. P. G. Williams, building surveyor, High-st., Bramley. Dep. £2 2s.

Norton.—Installation.—Of low pressure hot water at new school, for West Riding E.C. Education Department, County Hall, Wakefield.

Norton.—Installation.—Of electric light at new school, for West Riding E.C. Education Department, County Hall, Wakefield.

Shoreditch.—Redecoration and Repair.—At the Town Hall, Old-st., E.C.1, for the Shoreditch Borough Council. T. L. Hustler, Borough Surveyor, Town Hall, Old-st., E.C.1.

JANUARY 15.

Ilfracombe.—Abattoir.—Extension of abattoir at Slade, for U.D.C. F. B. Goodman, B. and S. Dep. £2 2s.

JANUARY 16.

Blackrock.—Houses.—32, at Stradbrook, and laying down of roads, sewers and watermains in connection with same, for U.D.C. S.

***Hemel Hempstead.**—Houses.—Erection of 48-in. blocks of four on the Elephant Farm estate, for the Corporation of Hemel Hempstead. A. Murray-Smith, A.M.Inst., C.E., Borough Engineer, Market-sq., Hemel Hempstead. Dep. £2 2s.

JANUARY 17.

Huyton.—School.—New Council school at Huyton, for Lancashire E.C. Stephen Wilkinson, F.R.I.B.A., 16, Ribblesdale-place, Preston. Dep. £2.

JANUARY 21.

Brentwood.—Wiring.—Of Brentwood Mental hospital, comprising three large blocks and sundry houses and buildings, in screwed steel conduit, complete with fuseboards, etc., for Essex C.C. Couzens & Brown, 9, Old Queen-st., Westminster, S.W.1. Dep. £5 5s.

JANUARY 28.

London.—Pumping Station.—Construction of buildings, etc., at Deptford Pumping Station, Brookmill-rd., Deptford, S.E.8, for M.W.B. G. F. Stringer, clerk, Offices of the Board, 173, Rosebery-av., E.C.1. Dep. £10.

NO DATE.

Milngavie.—Houses.—36, on Park-rd., for T.C. F. A. B. Preston, L.R.I.B.A., housing architect, 6, Buchanan-st. Dep. £1 1s.

Nelson.—Houses.—94 non-parlour type, on Hodge estate, for T.C. B.S. Dep. £2 2s.

Milngavie.—Houses.—36 flatted houses on Park-rd., for T.C. F. A. B. Preston, L.R.I.B.A., Housing Architect, 6, Buchanan-st.

Pwllheli.—Chapel.—For Building Committee of Wesleyan Chapel, Pwllheli. R. D. Jones, chartered architect, 36, High-st.

MATERIALS, etc.

DECEMBER 24.

Breconshire.—Road Materials.—For C.C. J. M. Richards, C.S.

Breconshire.—Surface Work.—Surface dressing works on certain sections of main roads, for C.C. J. M. Richards, C.S.

DECEMBER 29.

Berkshire.—Road Materials.—For C.C. Lt.-Col. J. F. Hawkins, C.S., Reading.

Isle of Wight.—Highway Materials.—For C.C. A J. A. Harris, County Highways Surveyor.

DECEMBER 31.

Cornwall.—Stone.—Surfacing stone, also best quality granite or approved Elvan for foundations, etc., for C.C. C.S.

Pontefract.—Road Materials.—For T.C. B.E.

Rhondda.—Road Materials, etc.—For U.D.C. E Taylor, E. and S.

JANUARY 2, 1929.

Bexley.—Highway Materials. For U.D.C. W. T. Howse, S.

JANUARY 4.

Middleton.—Road Materials.—For T.C. B.E.

JANUARY 7.

Devon.—Road Materials.—For South-Eastern Division of C.C. A. Warren, County Surveyor, South-Eastern Division, Mansion House, 13, Cathedral-yard, Exeter.

Lindsey (Lincs).—Highways Materials.—For C.C. A. G. Bradshaw, C.S.

Norfolk.—Road Materials.—For C.C. S. H. Warren, C.S.

Oakham.—Road Materials.—For R.D.C. A. Gordon Kilner, S.

JANUARY 12.

Blackburn.—Builders' Materials.—For C.B. H. M. Webb, Borough and Water Engineer.

Dorset.—Road Materials.—For C.C. C.S.

JANUARY 14.

London.—Highway Materials.—For Camberwell B.C. W. Bell, B.E. and S.

JANUARY 18.

London.—Pipes, etc.—For Islington B.C. Electrical Engineer.

JANUARY 22.

Cairo.—Asphalt.—6,800 metric tons of asphalt, for Tanzin Department, Cairo. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. No. B.X. 4920.)

Johannesburg.—Pipes.—Steel and cast-iron pipes and cast-iron fittings, etc., for Grahamstown T.C. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 7182.)

ENGINEERING, IRON AND STEEL

DECEMBER 31.

Ringwood.—Sewerage.—4 miles of cast-iron and stoneware pipe sewers and manholes, pumping station, settling tanks, and other accessories, for R.D.C. W. C. Easdale, engineer, 1, Victoria-st., S.W.1. Dep. £5

JANUARY 2, 1929.

Dungannon.—Extension.—Improving the Dungannon water supply, for Joint Committee. W. J. Beatty, secretary to Joint Committee. Dep. £1.

Newcastle (Co. Down).—Road.—New bye-pass road with bridges and ancillary works, for R.D.C. R. Ferguson & S. M'Ilveen, chartered civil engineers, 36, Scottish Provident-buildings, Belfast. Dep. £3 3s.

JANUARY 3, 1929.

Antwerp.—Bridges.—Two reinforced concrete foot-bridges, for T.C. Dept. of Overseas Trade, 35, Old Queen-st., S.W.1. (A.X. 7152.)

JANUARY 5.

Hyndburn.—Reconstruction.—Of bridge, situate on Accrington to Whalleyn-rd., for Lancashire C.C. W. H. Schofield, A.M.I.C.E., County Offices, Preston.

JANUARY 7.

Willenhall.—Sewerage.—Construction of new outfall sewer, comprising 438 lin. yds. of 24-in., 27-in. and 30-in. diameter precast concrete pipes, 218 lin. yds. open brick and concrete carrier, 110 lin. yds. 15-in. glazed stoneware pipes, flushing tank, manholes, and works incidental thereto, for U.D.C. G. A. Waite, E. and S. Dep. £2 2s.

JANUARY 9.

Birmingham.—Sewer.—For (1) reconstruction in mass concrete of bridge over Birmingham and Fazeley Canal, Holly-lane, Erdington, and construction of a reinforced concrete arch bridge over Birmingham and Fazeley Canal, between Tyburn-rd. and Wood-lane, Erdington, and (2) Westley sewer and brook improvement, Acock's Green, viz., 760 yds. of brick and concrete and stoneware pipe sewers and culverts, etc., between The Avenue and Warwick-rd., for T.C. H. H. Humphries, City E. and S. Dep. £4.

JANUARY 10.

Cairo.—Bridge.—Swing bridge over the Mahmoudieh Canal, for Ministry of Communications, Egyptian Government. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 7224.)

FEBRUARY 28.

Siam.—Superstructures.—Steel bridge superstructures, for Siamese State Railway. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 7098.)

ROAD, SEWERAGE, AND WATER WORKS

DECEMBER 31.

Brynmawr.—Roads.—Roads, footpaths, etc., at housing site, Twyncynghordy, for U.D.C. J. J. Quirk, S.

Sandwich.—Mains.—Laying and jointing about 20 lin. yds. 3-in. diameter cast-iron water mains, with necessary sluice valves, hydrants, etc., on Sandwood estate, for T.C. Wm. R. Moultrie, C.E., Acting Waterworks Manager, The Barbican. Dep. £2.

Sleaford.—Water Supply.—Provision and laying of 500 yds. of 4 in. spun iron, 4,620 yds. of 3 in., and 2,640 yds. of 2 in. cast-iron water mains, together with necessary fittings, etc., in parishes of Helpringham and Little Hale, for R.D.C. E. H. Sills, E.

Staines.—Widening.—Of Walton-lane, Shepperton, including reinforced concrete raft, kerbing, storm water sewers, etc., for R.D.C. D. C. Fidler, E. and S. Dep. £2 2s.

JANUARY 1, 1929.

Aldenham.—Laying-out.—Of playing field, forming Phillimore recreation ground, for P.C. F. E. Charlton, clerk, Watling-st., Radlett. Dep. £1 1s.

London.—Roads.—Coating with tar or bituminous material about 52 miles of roads, for Islington B.C. B.E.

JANUARY 2.

Clacton.—Making-up.—Of Berkeley-rd., Severn-rd., and Upper Branston-rd., the carriageways to be of concrete, with concrete slab footways, grass verge, and other incidental works, for U.D.C. W. Aiston, S.

JANUARY 4.

Calcutta.—Main.—Supplying and laying in a prepared trench 42-in. steel main for supply of filtered water in Garden Reach, for the Corporation. Constructional Engineer, Water Works Extensions, Central Municipal Office.

JANUARY 7.

Edinburgh.—Sewer.—Enlargement and duplication of 5 ft. by 3 ft. 4 in. egg-shaped powburn sewer for a distance of 3,070 yds., for T.C. B.E.

JANUARY 8.

Greasbrough.—Sewerage.—Sewerage and sewage disposal at Greasbrough, consisting of pipe sewer manholes, outfall tanks and filters, and other works in connection therewith at Greasbrough and Nether Haugh, for U.D.C. J. Simmons & Son, civil engineers, 20, Silver-st., Doncaster. Dep. £5.

JANUARY 9.

Bexhill.—Making-up.—Of approximately 200 yds. in length on Burnt House Farm estate, Sidley, for T.C. G. Ball, S.B. Dep. £1 1s.

London.—Reconstruction.—Of carriageway in Bracewell-rd., comprising approximately 1,770 superficial yds. of 2-in. single-coat asphalt macadam, on a new reinforced concrete foundation, for Hammersmith B.C. R. Hampton Clucas, B.E. and S.

JANUARY 10.

Greenwich.—Sewers.—Construction of Sewers in connection with the Charlton Park Estate, Greenwich. B.C., Borough Engineer's Department, Town Hall, Greenwich. Dep. £2 2s.

JANUARY 17.

Johannesburg.—Bridgework.—Structural bridgework, for South African Railways and Harbours. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. No. A.X.7227.)

Public Appointments

DECEMBER 27.

Norwich.—Town Planning Officer required in the City Engineers' Department by the Norwich City Council. J. S. Bullough, A.M.Inst.C.E., City Engineer, Guildhall, Norwich.

DECEMBER 31.

***Bath.**—Architectural Assistant required in the City Engineer's Department. C.E., Guildhall, Bath.

JANUARY 1, 1929.

Hendon.—Second Architectural Assistant required by the Hendon U.D.C. Clerk to the Council, Town Hall, Hendon, N.W.4.

Southampton. — Deputy County Architect required by the Southampton C.C. F. V. Barger, Clerk, The Castle, Winchester.

JANUARY 7.

Essex.—Qualified Quantity Surveyor required on the temporary staff of the County Architect's Dept. Jno. Stuart, F.R.I.B.A., Cty. Architect, Old Court, Springfield, Chelmsford.

JANUARY 23.

***Nelson.**—General Foreman and Clerk of Works (joint position) required by the T.Council, for the erection of an open-air school. Town Clerk, Town Hall, Nelson.

APRIL 3, 4, 5.

London.—London Building Act, 1894.—District Surveyors at a London Centre, an examination of persons presenting themselves for the purpose of being examined for duties of District Surveyors. Clerk of the Council, the County Hall, Westminster Bridge, S.E.1.

CONTRACTS PLACED

Liverpool.—BUILDING.—The Liverpool City Council has agreed that the tender of Mr. John Lewis, Fairfield, of £42,342, for a police station, fire station and residence for the staff at Rose-lane, Mossley Hill, be accepted.

Horley.—ENLARGEMENT.—The Æonic Radio Co., Ltd., have placed a contract with Messrs. J. Jarvis & Sons, Ltd., 8, Wormwood-street, E.C.2, for the enlargement of their factory. The plans have been prepared by Mr. A. L. Abbott, 22, Craven-street, W.C.2.

Peterborough.—HOME.—The B. of G. have placed a contract with Messrs. J. Gutteridge & Sons, Ltd., Park-road, for the erection of a new children's home in Thorpe-road. The plans have been prepared by Mr. Sam Dodson, L.R.I.B.A., Cowgate.

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PROPOSED NEW BUILDINGS AND OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

Alfreton.—U.D.C. decided to erect 32 houses in Alfreton and 14 in Somercotes.

Bacup.—T.C. passed plans: T. Coates (1927), Ltd., Silver-st., Bury, 4 lock-up shops and 2 pairs dwelling-houses in Booth-rd.; H. Trickett & Son, Ltd., Crawshawbooth, 2 pairs villas, Fern Hill, Stacksteads; J. Crabtree & J. Heyworth, 20, Woodland-terrace, Bacup, 1 pair houses, Causeway-head.

Bangor.—Council submitted to Ministry of Commerce, Northern Ireland, scheme for improvement of harbour at £32,000.

Barnet.—Isolation Hospital Committee received a letter from Herts C.C. approving loan of £3,000 for proposed new quarters for nurses. M.H. also given approval. Simmons & Cutbush, architects.

Barnsley.—T.C. passed plans: Mesdames, Birkinshaw & White, 3 bungalows, Greenfoot-lane; E.C., new school, Littleworth-lane, Monk Bretton.

Barnsley.—Sanction to borrow is sought for Elementary school, Littleworth-lane, for 930, at £30,043 5s. 7d.

Bexhill.—T.C. approved plans for warehouse in Springfield-rd., by Mr. G. H. Gray, for T. Mepham & Sons.

Bexley.—U.D.C. passed plans: 6 shop-bungalows on corner sites Pickford-lane—Bowford-av.—Jenton-av.—Tlbury-Av. and Brampton-rd., for D. C. Bowyer, submitted by A. H. Jennings; 4 houses, Bellegrove Park estate, Welling, for R. Perfect, submitted by A. Hargreaves.

Birmingham.—City Council approved recommendation of General Purposes Committee in favour of establishment of a municipal aerodrome at Castle Bromwich.—The Gas Committee asked for sanction to borrow a further sum of £125,000 required for supply of gas mains and services. Council also approved Water Committee's action in requesting inclusion of a clause in Corporation Bill authorising borrowing of a further sum not exceeding £100,000, in connection with construction of Bartley Reservoir.

Blackburn.—T.C. passed plans: 4 houses, Preston New-rd., by Wm. Livesey & Sons; office, Galligreaves-st. (L.M.S. Goods Yard), by E. Walsh; 4 houses, Lammack-rd., by J. H. Hargreaves.

Blackpool.—Memorial Hall and Sunday Schools proposed for Holy Cross Church, for Rev. Cecil B. Dean. A. A. C. Moore, architect, 19, Abingdon-st.

Bolton.—Corporation approved £40,000 scheme of road widening. Plans by B.E.

Bosmere and Claydon.—R.D.C. sanctioned plans which been deposited by Parkington & Son for erection of 24 houses on site at Station-rd., Claydon.

Bovey.—Parish Council recommended Newton Abbot R.D.C. that 24 cottages should be erected on portion of Fat Park allotment grounds.

Bradford.—C.A., W. Williamson, F.R.I.B.A., City Architect, prepared plans 10 shops fronting to James-st. E.C. plan new school buildings on Swain House estate.

Bradford.—T.C. passed plans for houses: W. Horne & Sons, Leeds-rd., Fagley, 10; R. R. North & Co., Victoria-rd., Eccleshill, 2; A. Robinson, Mayo-av., 10; Shepherd Bros. & Brown, Poplar-rd., 4, and Moore-av., 6.

Brighton.—T.C. approved plans by Borough Surveyor for erection of 56 houses on remainder of the Whitehawk estate.—Plans passed: alterations and additions, "Patcham House," Patcham, London-rd. and Church Hill, Major G. R. Beard; electricity sub-station, Patcham, Corporation; 6 houses, Nos. 61, 63, 65, 67, 69 and 71, Kimberley-rd., G. Ayling; 11 houses and 2 garages, Milner-rd., R. FitzCoster; 7 lock-up garages with flat over, 12 and 12a, Rock-place, R. Braybon; rebuilding 9 and 10, Regent-row, Smithers & Sons, Ltd.; alterations, 154-155, Edward-st., G. Virgo & Sons; 4 houses, adjoining "Tor Estin," Osborne-rd., C. Slaughter; 3 houses, Reigate-rd., E. B. Hayward; 11 garages, Exeter-st., W. Casselden; 16 houses, Carlyle-av. and Canfield-rd., Braybons, Ltd.

Bromley.—T.C. passed plans:—9 houses, Wanstead-rd., A. Coldman & Son; 3 houses, Bourne-rd., E. Tyler.

Bristol.—Housing Committee asked T.C. for sanction to borrow £6,320 for erection of 16 additional houses by direct labour—12 of non-parlour type and four with parlours—on Shirehampton estate.

Burton.—Housing Committee recommending T.C. to purchase 13,578 sq. yds. in Short-st., Stapenhill.

* See also our List of Contracts, Competitions, etc.

for purpose of erecting houses—tenders are to be advertised for 22.

Cambridge.—T.C. passed plans: pair of semi-detached houses, Vinery-rd., Harold Desmond & Robert Ridgeon, 9, Romsey-rd.; 3 pairs of semi-detached houses, Coldham's-lane, C. L. Naylor, 304, Milton-rd.; 6 semi-detached houses, Green End rd.; C. L. Naylor, 304, Milton-rd.; 6 pairs of semi-detached houses, Green End-rd., J. R. Bennett & Sons, builders, Catharine-st.

Caven.—County Board of Health secured loan of £6,500 and extension of surgical hospital will be proceeded with at once.

Chobham.—Chertsey R.D.C. has instructed Surveyor to find a site and obtain tenders for 12 houses at West End.

Coulsdon and Purley.—U.D.C. passed plans prepared by Nicholls & Hughes for new Council offices proposed to be erected in Brighton-rd.—Council sanctioned Surveyor's revised plans of certain of Council houses to be erected in Farleigh-rd. and resolved that Surveyor be instructed to prepare detailed plans and specifications and Clerk to invite tenders for erection of houses.—Plans approved:—H. Salter, 6 garages, St. Andrew's-rd., Coulsdon; H. P. Hawkes, pair of semi-detached houses and garages, Briton-crescent, Purley Downs-rd., Sanderstead; R. Costain & Sons, 30 semi-detached cottages, Foxearth-rd., Croham Heights; E. H. Easton, 4 garages and alterations to kitchens, St. Andrews-rd., Coulsdon.

Coventry.—Electricity Committee recommend that application be made for sanction to a loan of £8,963 for certain new mains and £13,568 for certain other mains.

Croydon.—B.E. submitted sketch plans of proposed new branch library at the London-rd. corner of Beatrice-av., Norbury, and C.B. approved generally of design and requested B.E. to prepare working drawings.—Tenders are to be invited for construction of five shops with dwelling houses over at junction of Mitcham-rd. and Purley-way, and application is to be made to M.H. for sanction to borrow £5,100 for purpose.—Plans passed: Courtney Pope Co., 339, Seven Sisters-rd., N.15, shop premises, 104, North-End; Thomas & Sons, Station Approach, Chipstead, 2 houses, St. Oswald's-rd.; E. H. Smith, 48, Wellesley-rd., factory extension, St. James'-rd.; Baldwin & Sons, Ltd., 19, Duppas Hill-lane, 8 houses, Waddon Court-rd.

Darlington.—T.C. passed plans:—Bradshaw, Gass & Hope, electrical sub-station, Whessoe-rd.; J. E. Chilton, 5 houses, Brinkburn-rd., 2 houses, Geneva-rd. East.

Dewsbury.—C.B. passed plans: J. Austin & Sons, Ltd., electric sub-station, Forge-lane; J. Crossley, 7 houses Bywell-rd.; B.G., proposed new buildings (casual wards), Staincliffe Institution; J. Walker & Sons, 3 shops, Crackenedge-lane; The Yorkshire (W.D.) Electric Tramways, Ltd., new central offices, Mill-st. East.

Doncaster.—Arrangements for selling site to British Bemberg, Ltd., who are to build artificial silk factory, been authorised by T.C.

Doncaster.—T.C. sanctioned scheme for covering in the open space in front of Market Hall, at £8,600, and recommend that application be made to M.H. for sanction.

Dublin.—Plans following new buildings and works of reconstruction have been approved by H. T. O'Rourke, City Architect:—Home Farm-rd. and Griffith-av. (128 houses), Dublin Commercial Public Utility Society; 21 to 24, D'Olier-st. and 5 to 8, Hawkins-st. (reconstruction), T. & C. Martin, Ltd; Shandon-drive, 6 houses, George Byrne.

Ealing.—T.C. passed plans: Craven-rd., transformer station, for Dominion Engineering Co., North Wharf, Gordon-rd., Ealing, W.13; Waxlow-rd., Park Royal, new machine shop, for H. J. Heinz Co., Ltd. (architects: Hal Williams & Co., 79 and 80, High Holborn, W.C.1); Greenford-rd., Greenford, house, for Mrs. A. C. Vertue (architect: T. H. B. Scott, 11 and 12, Finsbury-sq., E.C.2); Carlyle-rd., 3 houses, for G. Green & Sons, builders, Dawley-rd., Hillingdon; Boston-rd., W.7, 2 shops, for G. Phippen, 6, Melbourne Cottages, W.7; Oaklands-rd., W.7, 3 shops, for F. W. Lack (architects: Dodge & Reid, 120, High-st., Brentford); Hanger-lane, 4 lock-up garages, for Motor Surveys, Ltd. (architect: L. J. Dean, 38, Sunray-av., Herne Hill, S.E.24); Petts-lane, Northolt, "The Swan" Building Line, for F. J. Fisher & Son (architects), 35, John-st., Bedford-row, W.C.1.

Easington.—R.D.C. decided to apply to M.H. for sanction to erection of 100 additional houses.

Edmonton.—U.D.C. passed plans: G. F. Pulford, 5 houses in Little Bury-st.; C. W. Dennis, extensions to warehouse building in Chichester-rd.; London Co-operative Society for conversion of cinema in Fore-st. into shop premises; F. Allwright for 16 houses Hertford-rd.; A. Monk, extension to Dusmo Factory, Angel-rd.

Filey.—Tenders for building of 72 new houses off Scarborough-rd. are to be invited by U.D.C.

Frimley.—U.D.C. received letter from Surrey E.C. enclosing, for information of Council, a copy of the sketch plans for Camberley Secondary school. Plans provided for 200 mixed scholars, and an extension to 300.

Folkestone.—T.C. received sanction of M.H. to borrowing of £26,500 for erection of 74 additional houses on Canterbury-rd.-Dover-rd. housing site.—Council resolved that shelter and conveniences now at Leas Recreation Ground, site of which is being surrendered to Lord Folkestone, be removed and re-erected at the Canterbury-rd. recreation ground, and B.E. estimated cost at £350.

Gravesend.—T.C. passed plans: T. Bennett, 8 houses at Woodfield-av., for J. R. Pettman; T. Bennett, 6 houses at Woodfield-av., for J. R. Pettman.

Hampton.—Council are considering tenders for erection of 91 houses on Hill Field site.

Harrogate.—Plans prepared for proposed new Town Hall are to be submitted to a sub-committee for consideration.

Hatfield.—Inquiry been held by M.H. into proposal of R.D.C. to borrow £8,000 for purpose of purchasing site in St. Albans-rd., by Stonecross-rd., and building new offices.

Hounslow.—Hounslow branch of the United Services Club has placed contract with F. J. Pateman, Fairfield Works, Fairfield-rd., for new club-house in Hanworth-rd. Architects are P. Chase Gardener & Co. High-st.—F. G. Cressy, Town Hall-chambers, has planned £12,700 electricity show-rooms between Bath and Staines-rds., for the Electricity Committee.

Hove.—T.C. passed plans: L. G. Ward, for Four-square Gospel Alliance, church, Portland-rd.; A. Matthews, 3 houses, Lorna-rd.; H. M. Pett, for Parochial Church Council, additions and alterations, St. Agnes Church, Newtown-rd.

Hucknall.—U.D.C. passed plans for 11 new houses.

Ilminster.—M.H. given sanction to U.D.C. to borrow £3,365 for provision of working-class houses.

Keynsham.—Somerset C.C. are to build new public elementary school for 280 senior children, comprising seven classrooms, with a special subjects centre and science, at Keynsham.

Killarney.—Kerry C.C. authorised £800 on repairs to County Home.

Leeds.—S. Driver, South Market, Hunslett-lane, proposes warehouse. Plans by W. R. Brown, architect, Dewsbury-rd.

Leyton.—T.C. passed plans: H. G. Needham, 3 houses and garages, 111, 113, 115, Cavendish-drive; J. & E. Alexander, 11 lock-up garages rear of 8 and 10, Wallwood-rd.; W. S. Trent, extension to lavatory, "Cowley Arms" P.H., High-rd., Leytonstone; W. G. Elkins, 5 houses, Chesterfield-rd.

London (Bermondsey).—B.C. passed plans for erection of 2 cottages in Odessa-st., and approved the general manager's estimate of £1,200.

London (Hackney).—B.C. passed plans: A. Collier, 10 lock-up garages, Morpeth-rd.; A. J. King, Ltd., factory premises, Southgate-grove; G. H. Burghes, garage and structural alterations at 98, Clapton-common; J. Hamilton & Son, addition to Bush's warehouse, Ash Grove works, Sheep-lane; Rowley Bros., Ltd., Block of L.C.C. dwellings at Shore-place.

London (Paddington).—B.C. recommend that £3,700 be approved for reconstruction at higher level of existing buildings at 26, Wharf, 175, Harrow-rd.—Also recommend that, subject to the recommendations of the Public Library Committee for extension of library premises in Porchester-rd. being adopted, application be made to L.C.C. for sanction to borrow £8,677 for library purposes of development of "The Lodge" site, Porchester-rd.

London (St. Pancras).—B.C. recommend that application be made to Electricity Commissioners for sanction to borrowing of £29,617 for electricity purposes.

London (Shooters Hill).—A paddling pool is to be constructed in Eaglesfield-park, at £505.

London (Wandsworth).—B.C. passed plans:—Ward & Paterson, Ltd., alterations and additions to Avenue House, King's-av., Clapham South; John Harrison & Co., refreshment house and conveniences, Streatham-common; Wilton Decorators, Ltd., warehouse and garage, 9, Park-hill, Clapham South; F. T. Wooding & Sons, 9 houses in Leigham Court-rd., and 33 in Romeyn-rd., Streatham.

Loughborough.—T.C. passed plans: Store shed, Baxter-gate, for Loughborough General Hospital Committee; alterations to premises, Church-gate, for H. Ganderton; lock-up garages, King's Head Hotel, High-st., for Directors of the King's Head Hotel (Loughborough), Ltd.; alterations to premises, 6 and 7, Mill-st., for Clemersons, Ltd.

Manchester.—Riley & Sons, builders, Forge-lane, Bradford, Manchester, plans at Clayton-lane, for G. Chadwick & Co., dyers, brick building 200 ft. by 40 ft.

Nelson.—T.C. passed plans:—4 houses in Hendon-rd., for D. Flory & Son; 4 houses in New-st., for J. & J. H. Boothman; 4 houses in Romney-st. for H. Priestley & Son; 6 houses in Surrey-st., for J. W. & H. Tomlinson; 4 houses on Clay Farm estate, for T. Dent & Sons; alterations and additions, Yorkshire Penny Bank, Manchester-rd., alterations at rear of 2, 4 and 6, Market-st., for Hartley & Roberts.

Nelson.—Site at Edge End been acquired for Central School, for Corporation. Plans for E.C., by B.S., F. V. Alexander, A.M.I.C.E.

Newport (Mon).—C.B. passed plans: Allt-yr-yn-rd., pavilion, Newport H.S.O.B., A. Kimpton, of Bridge-st., per H. R. Rowe; Morgan-st., 17 houses L. & H. Gibson, of Clayton-st., per F. Scott; Windsor and Walmer-rds., 8 houses, T. Addis, of 59, Balmoral-rd., per H. Budgen.

Newport Pagnell.—R.D.C. are to erect 8 houses at Hasslope.

North Tipperary.—Council approved scheme for reconstruction of portion of Roscrea District Hospital into a sanatorium.

Norwich.—T.C. considering new premises for City Fire Brigade.

Oxford.—T.C. passed plans:—Governors of St. Edward's College, science block, Woodstock-rd.; J. Johnson, University Press, extensions to power station.

Plymouth.—C.B. resolved that City Architect be asked to submit plans for the enlargement of Montpelier school, on site belonging to Authority and reserved for this purpose and to accommodate about 700 more children, including the 150 now provided for in temporary premises.—Plans are to be submitted by City Architect for improvement of Mount-st. school and its sanitary arrangements and to be sent to B. of E. for approval, and Council are also to make order for compulsory purchase of 130, Albert-rd., Morice Town, for school extension.—Tenders are to be invited for repairs to Pottery quay pontoon.—Surveyor submitted plan of land to be reserved at Water-lane, Stonehouse, for purpose of works depot.—E.C. received sanction to borrow £1,574 for alterations to Cornwall-st. school.—Plans passed:—Waycott Bros., 12 houses, Dale-gardens; A. E. Taylor, garage and petrol-filling station, Wolseley-rd., Milehouse; Millbay Laundry, Cleaning & Dyeing Co., Ltd., extension of cleaning department, Hobart-st.

Portarlington.—12 cottages are to be built on an old hotel site in Main-st.

Portsmouth.—T.C. passed plans: J. McDermott, 10 houses, Hewitt-rd.; G. Mitchell, 12 houses, off London-rd., Cosham; G. McCormick & Son, 10 houses, Upper Park-rd., Cosham; Rev. Davies, additions to Congregational Church, Edinburgh-rd.; W. E. Ekers, 5 houses, Mayfield-rd.; E. V. Pulford, store, Southampton-rd., Cosham; F. W. Payne, 16 houses, Southampton-rd., Cosham; W. Ford, 9 shops and garages, Tangier and Neville-rds.; R. J. Winnicott, 28 houses, unnamed rd. off Paignton-av.; Wade & Connor, 11 houses, Kensington-rd.

Redcar.—T.C. has secured M.H. sanction to widen Promenade and extend the Coatham Promenade, at £20,000.

Rochdale.—T.C. are negotiating for two housing sites, 13½ acres adjoining the Castle housing estate, and 23½ acres at Hollows Farm estate.

Rotherham.—T.C. approve final plans by B.E., Vincent Turner, M.I.C.E., for Central Library on the St. George's Hall site, at £25,100.

Rotherham. — T.C. passed plans: Rotherham Young Men's Christian Association, Percy-st., recreation hall with office, class room and conveniences for boys' department; G. Bilton, Broom-lane, pair of semi-detached dwelling-houses with 6 rooms.

Shrewsbury.—Plans for senior boys' and girls' schools providing a total of 680 places to be erected on Racecourse have been approved by T.C. Buildings are estimated to cost £31,700.

Skegness.—Council decided to apply for grant towards construction of first section of a new promenade and seawall, and sanction for a loan of £6,280 to extend boating lake.

Southport.—T.C. passed plans: Rawcliffes, Ltd., Duncan-st., Leeds, 6 lock-up shops, with workroom over, in Hoghton-st.; Lloyds Bank Ltd., bank building, corner of Lord-st. and London-st.; R. Gregson, 52 Marshside-rd., 3 lock-up garages at rear of 52, Marshside-rd.

Spenborough.—U.D.C. passed plans:—Extensions to wireworks of J. Rigby & Sons, Ltd., Liversedge; extensions to wireworks of C. Hirst & Sons, Ltd., Exchange-st., Cleckheaton.

Stafford.—R.D.C. approved plans and estimates for construction of a new bridge and road improvements at Worston.—Highways Committee estimated cost of carrying out the work at £4,077 8s. 10d.

Stockport.—Housing Committee decided to purchase seven acres of land at Reddish for £2,730 as site for erection of working-class houses.

Stockton.—Plans passed by Corporation:—4 semi-detached houses in Stanley-st., Norton, for A. Thompson; warehouse and garage in Unthanks-yard, for Prudential Assurance Co., Ltd.; pair of semi-detached houses in North Albert-rd., Norton, for G. Walker, 19, Cambridge-rd.

Stretford.—U.D.C. are to invite tenders for interior decorating 116 houses (106 at Seymour-grove and 10 elsewhere).—Council resolved chairman and librarian be requested to consider the matter of provision of additional accommodation at Stretford Library.—Plans passed: shops, Warwick-rd. South, M. & S. Equitable Co-op. Society, Ltd.; lavatories, Tank Shop extension, Westinghouse-rd., for Metro-Vickers Elect. Co., Ltd.; extension, motor drawing office, Westinghouse-rd., for Metro-Vickers Elect. Co., Ltd.; 4 houses, Seymour-grove, for Smith & Allcock; printing works and offices, Stretford-rd., J. Broad & Co., Ltd.

Sunderland.—R.C. churches are proposed at Hendon for Humbledon estate.—Elementary school at £7,000 in Hendon parish also.

Thorne.—M.H. are favourably disposed towards scheme for erection of 100 houses at Thorne and 12 at Hatfield.

Tottenham.—London C.C. recommend that, subject to consent of M.H., triangular plot of land at junction of White Hart-lane and New Cambridge-rd., White Hart-lane estate, be let to U.D.C. for erection of public convenience.

Wakefield.—B.G. propose additions to Institution. W. H. Watson, F.R.I.B.A., Barstow-square.

Wakefield.—Corporation propose shopping centre on the Lupset estate, 13 shops and 14 garages are proposed.—T.C. passed plans: W. H. Watson, additional vestry in Doncaster-rd., for Trustees of the Belle Vue Primitive Methodist Church.—City Council approved plans:—4 additional lock-up garages in Wentworth-st., for W. Hemingway; J. P. Firth, alterations to Cutter Inn, Bridge-st., for Leeds & Wakefield Breweries Co., Ltd.; Wakefield Gaslight Co.'s Sports Club, sports pavilion in Jacob's Well-lane.

Workington.—Maternity and Child Welfare Committee decided to proceed with building of new centre on Park-lane site, at £2,968.

Worksop.—Rev. P. Leeds, of St. Anne's Church, proposes parish hall on Newcastle-av. Plans by B. D. Thomson, 73, Bridge-st.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 5 6
Second Hard Stocks	3 19 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 12 3	Best Blue Pressed Staffs	9 5 0
Do., grooved for Plaster ...	2 14 3	Do. Bullnose ...	9 15 0
Do., Bullnose...	3 7 3	Blue Wire Cuts	7 5 0

Best Stourbridge Fire Brick :—
2½ in. ..... 8 11 0 3 in. 10 3 0

GLAZED BRICKS—

Best White Ivory, and Salt Glazed Stretchers ...	1 0 0	D'ble Str'tch'rs	29 10 0
Headers	20 10 0	D'ble Headers...	26 10 0
Quoins, Bullnose and 4½ in. Flats	27 10 0	One Side and two Ends ...	30 10 0
		Two Sides and one End	31 10 0
		Splays, and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS
Delivered London

	s. d.		s. d.
2 in. per yd. super.	1 11	3 in per yd. super	2 9
2½ in. ,, ,,	2 4	4 in. ,, ,,	3 6

	s. d.	
Thames Ballast	9 9 per yd.	delivered 2 miles radius Paddington.
Pit Sand	12 0 ,, ,,	
Thames Sand	12 6 ,, ,,	
Best Washed Sand.....	12 6 ,, ,,	
½ in. Shingle for Ferro-Concrete	12 0 ,, ,,	
¼ in.	12 6 ,, ,,	
¾ in. Broken Brick.....	11 6 ,, ,,	
Pan Breeze	8 0 ,, ,,	

Per ton delivered in London area in full van loads.
Best Portland Cement. British.
Standard Specification. Test £2 6 0 to £2 8 0 39s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 7 6
Super Cement (Waterproof)	3 16 0
Roman Cement	8 15 0
Parian Cement.....	5 15 0
Keene's Cement, White	5 15 0
,, ,, Pink.....	5 10 0
Plaster, Coarse, Pink	3 0 0
,, ,, White	3 12 6
,, Fine	5 12 0
Sirapite, Coarse	3 9 0
,, Finish	3 17 0
Grey Stone Lime.....	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair ..... per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.
Stourbridge Fireclay in s'cks 37s. 0d. per ton at rly. dp.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube..... s. 2 d. 10

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. per ft. cube 3 1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE.—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube..... 4 4½
Do. do. delivered on road wagons at above stations, per ft. cube..... 4 5½
White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every foot over 20 ft *average*, and ½d. beyond 30 ft.

HOPTON-WOOD STONE.—
Delivered at any Goods Station, London. s. d.
Random blocks from 10 ft. and over P. ft. cb. 14 0
Sawn two sides ..... ,, 22 6
Sawn three or four sides ..... ,, 27 6

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London.
6 in. sawn two sides landings to sizes (under 30 ft. super).....Per ft. super 5 6
6 in. rubbed two sides, ditto ..... ,, 6 0
3 in. sawn two sides slabs (random sizes) ,, 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... ,, 1 6½
1½ in. to 2 in. ditto, ditto ..... ,, 1 3½

HARD YORK—
Delivered at any Goods Station, London.
Scappled random blocks ..... Per ft. cube 6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) ..... Per ft. super 5 1½
6 in. rubbed two sides, ditto ..... ,, 6 1½
4 in. sawn two sides slabs (random sizes) ,, 2 1½
3 in. ditto ditto ,, 2 10
2 in. self-faced random flags.....Per yd. super 8 8

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£30 0	3 × 6	£21 0
4 × 9	26 0	3 × 11	25 0
4 × 8	25 0	2 × 11	26 0
4 × 7	23 0	3 × 9	24 0
3 × 8	22 0	2½ × 9	24 0
3 × 7	22 0	3 × 4½.....	21 0
2½ × 7	21 0	3 × 4	21 0

PLANED BOARDS.

1 × 11	£30 0	1 × 9	£28 0

PLAIN EDGE FLOORING

Inches.	per sq.	Inches.	per sq.
⅜.....	18/-	1¼.....	30/-
½.....	21/-	1½.....	34/-
1	24/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.
1	24/-
1¼.....	30/-
1½.....	34/-

MATCHING (BEST).

Inches.	per sq.
⅜.....	16/6
½.....	19/-
1	24/-

	s. d.
Ins. BATTENS.	
¾×2.....per 100 ft.	2 6
SAWN LATHS.	s. d.
Per bundle	2 6

1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 16 0	to 0 18 0
Dry American and/or Japanese Figured Oak, ft. cube.....	0 14 0	to 0 15 0
Dry American and/or Japanese Plain Oak, ft. cube	0 10 0	to 0 13 0
Dry sq. edged Honduras Mahogany, ft. cube.....	0 15 0	to 0 18 0
Dry Log cut Honduras Mahogany, ft. cube.....	0 16 0	to 1 1 0
Dry Cuba Mahogany, ft. cube...	1 1 0	to 1 10 0
Dry Teak, ft. cube	0 13 0	to 0 15 0
Dry American Whitewood, ft. cube	0 10 0	to 0 14 0
Best Scotch Glue, per cwt.	4 10 0	to —
Liquid Glue, per cwt.	4 7 0	to 5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000.

	£ s. d.		£ s. d.
24 by 12	32 18 4	18 by 10	18 12 11
22 by 12	29 17 11	18 by 9	16 9 2
22 by 11	27 14 2	16 by 10	15 12 6
20 by 12	26 5 0	16 by 8	12 3 9
20 by 10	22 10 0		

TILES.

Delivered at London rate stations in full truckloads of not less than 6 tons. Per 1,000. f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district.....	5 7 6
ditto hand-made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) { Hand-made	0 9 6
{ Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
,, ,, Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅝ in. to ½ in.	10 15 0
⅜ in.	11 0 0	⅝ in. to 2¼ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Tubes. Wrought Mild Steel.	Tubes. Genuine Staffs. Iron.	Fittings. ½ in. and under.	Fittings. Over ½ in.	Flanges. ½ in. and under.	Flanges. Over ½ in.
	%	%	%	%	%	%
Gas	67½	50	42½	45	52½	55
Water	63¾	46½	37½	40	47½	50
Steam	60	42½	32½	35	42½	45
Galv. gas.....	55	37½	32½	35	42½	45
Galv. water	50	32½	27½	30	37½	40
Galv. steam	45	27½	22½	25	32½	35

C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d.	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.

O.G. GUTTERS.

3 in.	1/8	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 ft.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. ,, ...	2/0½	1/4½	2/1½
3 in. ,, ...	2/6	1/9	2/7½
3½ in.	2/11½	2/0½	3/0½
4 in. ,, ...	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Bends, stock angles.		Branches, stock angles.	
	s. d.		s. d.	
2 in. per yd. in 6 fts. plain	3 3	2	4½	2 10
2½ in. ,,	3 9	2	7½	3 7
3 in. ,,	4 6	2	10	4 2½
3½ in. ,,	4 11½	3	7	4 11½
4 in.	5 5½	4	0½	5 9

L.C.C. COATED DRAIN PIPES—London Price ex Works

	Bends, stock Pipe, angles, stock angles.		Branches, stock angles.	
	s. d.		s. d.	
3 in. per yd. in 9ft. lengths	4 4	5	1	8 0½
4 in. ,, ,,	4 10	5	8	10 0
5 in. ,, ,,	6 6	10	10	17 1
6 in. ,, ,,	6 8	13	2	21 9

Gasken for jointing, 38/6 per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common bars.....	11 0 0	to	12 0 0
Staffordshire Crown Bars—Good merchant quality	11 10 0	to	12 10 0
Staffordshire Marked Bars.....	14 0 0	...	15 0 0
Mild Steel Bars	10 0 0	...	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0	...	11 0 0
Hoop iron, basis price	11 10 0	...	12 10 0
,, Galvanised	27 0 0	...	28 0 0
Soft Steel Sheets, Black—Ordinary sizes, to 20 g....	13 0 0	...	14 0 0
,, ,, ,, 24 g....	14 0 0	...	15 0 0
,, ,, ,, 26 g....	16 0 0	...	17 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 0 0	...	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.....	16 0 0	...	17 0 0
Ordinary sizes, 6 ft. by 2ft. to 3 ft. to 26 g....	18 0 0	...	20 0 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—Ordinary sizes, 6 ft. to 9 ft. to 20 g.	16 10 0	...	17 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	17 0 0	...	18 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	20 0 0	...	21 0 0
Sheets Galvanised Flat, Best quality—Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	21 0 0	...	22 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	23 0 0	...	25 0 0
Best Soft Steel Sheets, 26 g.	24 10 0	...	25 10 0
Cut Nails, 3 in. to 6 in.....	18 0 0		

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	29 10 0
Pipe in coils	30 0 0
Soil pipe	33 0 0
Compo pipe	34 0 0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 5s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	19 15 0

COPPER.

		s. d.
Seamless Copper tubes (basis).....	per lb.	1 1½
Strong sheet	,,	1 0
Thin.....	,,	1 1
Copper nails	,,	2 3
Copper wire	,,	2 4

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps ...	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps ...	35/-	45/-	66/-	126/- ,,

TIN.—English Ingots, 2/6 per lb. SOLDER.—Plumber's 1/1. Tinmen's 1/4, Blowpipe 1/5 per lb.

PAINTS, &c.

Raw Linseed Oil, in pipes	per gallon	0	2 9
,, ,, ,, in barrels ...	,,	0	2 11
,, ,, ,, in drums ...	,,	0	3 1
Boiled ,, ,, in barrels ...	,,	0	3 1
,, ,, ,, in drums ...	,,	0	3 4
Turpentine in barrels	,,	0	4 4
,, in drums (10 galls)	,,	0	4 6
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)		52	0 0

Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

PAINTS, &c. (*contd.*)

		£	s.	d.
GENUINE WHITE LEAD PAINT. "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polaco," "J," Brand, and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	70	10	0
Red Lead, Dry (packages extra) ...	per ton	39	10	0
Best Linseed Oil Putty	per cwt.	0	15	0
Filicol	"	0	15	6
Size. XD quality	ftn.	0	3	6

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft.
15 oz. fourths ...	2½d.	32 oz. fourths	6½d.
15 " thirds ...	3½d.	32 " thirds	8½d.
21 " fourths ...	3½d.	Obscured Sheet, 15 oz.	3½d.
21 " thirds ...	4d.	" " 21 "	4½d.
26 " fourths ...	4d.	Fluted 15oz.6½d.,21oz.	9d.
26 " thirds ...	6½d.	En'lled 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
⅛ Rolled plate	4½d.
3/16 Rough rolled	5½d.
¼ Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic Stippolyte, and small and large Flemish White	5½d
Ditto, tinted	8½d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	6
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	0
Best ditto	ditto	1	12	0
Best Japan Gold Size		0	12	6
Best Black Japan		0	10	6
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	6
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebine		0	9	0
Cuirass Black Enamel		0	7	0

NEW BUILDINGS IN SCOTLAND

Glasgow.—HOUSES.—The plans for the erection of 48 houses at Germiston by the Corporation Housing Department have been passed by the Glasgow Dean of Guild Court. The scheme will comprise 36 dwellings of three apartments and 12 of two apartments. Other linings granted by the Court were :—Education Authority of Glasgow—to erect a school clinic at Elmvale Public School, Hawthorn-street, Springburn; Scottish National Academy of Music—alterations and additions to premises at 54, West George-street; William B. Booth, General of the Salvation Army—to erect a hall at Stirling-road; Governors of Victoria Infirmary—additions to Infirmary, Battlefield-road, at Grange-road; John Glen & Co., Ltd., Ingram-street—warehouse at 93, Hutcheson-street, and 10-14, Garthland-street.

Airdrie—EXTENSIONS.—The Airdrie Dean of Guild Court has passed plans for the extension and reconstruction of St. Margaret's Roman Catholic Church, Hallcraig-street, at an estimated cost of £4,500.

Campbeltown—BUILDING.—A gift of the site and buildings of Kinloch Distillery has been accepted by Campbeltown Town Council. The donor, Mr. Duncan MacCallum, who has decided to dismantle the distillery, suggests that the site is suitable for a further building scheme. The extent of the ground is 1½ acres.

Clydebank.—HOUSES.—The Board of Health have authorised acceptance of the lowest tenders by Clydebank Town Council for 346 houses at Parkhall.

Dundee. — BUILDINGS. — Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the City Engineer :—Barrack-street—alterations for Messrs. John L. Robertson. Ltd., Nelson T. Stewart, architect, 64, Reform-street; Bell-street—college for George Bonar, Robert Gibson, architect, 2, India-buildings; Hill-street, Broughty Ferry—alterations and additions for the Black Watch War Memorial Committee, James Findlay, architect, 33, Albert-square; Princes-street—alterations for the Managers of Princes-street Congregational Church.

Glasgow.—HOUSING.—The Glasgow Housing Committee have decided to recommend the Corporation to agree to a proposal for the acquisition of four acres of ground in Janefield-street, east of Celtic F.C. Park, as a site for rehousing purposes.

Montrose. — RESERVOIR. — The Montrose Royal Asylum Board have decided to erect a new reservoir at a cost of £3,000.

Obituary.

The death has occurred at 19, Dalhousie-street, Perth, of Mr. James Jack, joiner, contractor, and house factor.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons' ‡ Bricklayers'‡ Plasterers'†
Aberdeen	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Airdrie	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Alexandria	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Arbroath	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/5½	1/1
Ayr	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Bathgate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Coatbridge	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Dumbarton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Dumfries	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/6½	1/2
Dundee	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/3 †1/2½
Dunfermline	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	‡1/2½ †1/2½
Edinburgh	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/3½ †1/2½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/6½	1/7	1/6½	1/7	1/6½	1/6½	1/7	1/2
Glasgow	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Greenock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Hamilton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Kilmarnock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Kirkcaldy	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Kirkwall	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Leith	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/3½ †1/2½
Motherwell	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Perth	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Stirling	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Stirlingshire (Eastern District)	1/7½	1/9	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Wishaw	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 1032.

PATENTS

APPLICATIONS PUBLISHED.*

296,796.— J. Y. Johnson.—Production of high-grade plasters.

281,223.—O. Manfred : Speedy manufacture of albumen containing plastic masses having elastic properties.

296,834.—M. Odling : Building-blocks.

273,314.—J. Meiser : Corrugated-sheet piling.

296,844.—E. G. Spencer-Churchill : Kilns.

280,500.—A. Grube : Method of and apparatus for spraying paints.

296,857.—A. Brooke : Beadings or edgings, cornice or drip mouldings.

296,870.—G. B. Williams and W. J. H. Porter : Method and means of making joints and connections.

296,912.—J. Shakespeare : Manufacture of concrete building-blocks.

284,704. — Stockholms Benmjôslfabriks Aktiebolag : Method of manufacturing glue in small pieces in the shape of granules or drops.

294,948.—J. O. Gould : Positive-locking casement-fastener.

295,075.—Bolckow Vaughan & Co., Ltd., and M. A. McLean : Bricks for the checker work of blast furnace.

295,086.—J. L. Musgrave and Crittall & Co., Ltd. : Heating of buildings.

295,101.—L. Ottinger : Mounting for latch handles.

295,126.—A. M. Kobiolke : Process and apparatus for preserving timber.

294,138.—Armstrong Cork Co. : Manufacture of service coverings, particularly for use on floors.

282,403.—Dr. F. Singer : Process for reducing the coefficient of expansion of ceramic materials.

283,471.—I. G. Farbenindustrie Akt.-Ges. : Manufacture of acid-proof cements and acid-proof masonry.

295,190.—W. Wyatt : Stackpipes.

289,069.—Fenestra Fabrik fur Eisenhochbau Ges. : Casement windows.

285,470.—K. Schenkel : Process for the manufacture of artificial stone.

295,549.—A. F. Davis : Valves for cisterns.

284,246.—H. Laderer : Water-resisting building-material.

295,565.—T. J. Bell : Water-closet flushing-cisterns.

292,958.—Deutsche Gold- und Silber-Scheideanstalt Vorm. Roessler : Manufacture of refractory articles.

295,410.—E. B. Scott and R. O. Simcock : Openwork concrete panels for use in walls, etc.

295,267.—British Mannesmann Tube Co., Ltd., and R. F. Weiser : Coating for protecting the inner surfaces of hollow bodies, such as tubes.

295,297.—British Mannesmann Tube Co., Ltd., and W. Koehn : Binder for covering the surfaces of pipes and tubes.

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* All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	„ „	1	0
Add for every additional depth of 6 ft.	„ „	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	„ „	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	„ „	7	0
Add if in floors 6 in. thick	„ „	3	3
Add if in beams	„ „	3	9
Add if aggregate 1 : 2 : 4	„ „	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	„ „	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	„	7	10	0
Add if in Staffordshire blues	„	22	0	0
Add if in Portland cement and sand	„	1	10	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1¼

POINTING.

Neat flat struck or weathered joint	„ „	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—

Fair external in half brick rings	„ „	0	0	10
Axed in stocks	„ „	0	1	9
Rubbed and gauged jointed in putty camber or segmental	„ „	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	„ „	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	„	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	„ „	9	6
Three-quarter-inch on flats in two thicknesses	„ „	6	3
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	„ „	1	2

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	„ „	22	0
Bath stone and all labour fixed	„ „	10	6
Beer stone and all labour fixed	„ „	15	0
Portland stone fixed	„ „	20	0

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	„	80	9
Do. 24 in. × 12 in. Do. Do.	„	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	0
Do. joists	„ „	5	6
Do. roofs, floors and partitions	„ „	6	0
Do. trusses	„ „	8	6

		¾″	1″	1¼″	2″
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-

Fl.t centering for concrete floor, including struts or hangers	„	50	0
Do. to beams	per ft. sup.	0	11
Centre for arches	„	1	6
Gutter boards and bearers	„	1	0

FLOORING.

		¾″	1″	1¼″	1½″
Deal-edges shot	per sq.	—	44/6	53/-	60/6
Do. tongued and grooved	„	—	49/-	57/6	65/-
Do. matchings	„	45/-	51/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	„ „	2	1
Add for fitting and fixing	„ „	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights ; average size	„ „	3	9

DOORS.

		1½″	1¾″	2″
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	„	2/5	2/8	2/11
Two-panel moulded both sides	„	2/8	2/11	3/2
Four-panel Do. Do.	„	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bea ers	„	1/4	1/6	1/9
Add if cross-tongued	„	2d.	2d.	2d.

STAIRCASES.

	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail : average, 3 in. × 3 in.	„ „	6	0
Add if ramped	„ „	12	0
Add if wreathed	„ „	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	„	19	0
Do. stanchions	„	21	9
In roofwork	„	27	6

RAIN-WATER GOODS.

		3″	4″	5″	6″
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	„	1/9	2/-	2/6	3/3
Rain-water pipes with ears	„	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	„	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	„	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	43	0
Do. Do. in flats	„	42	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	„ „	1	3
Copper nailing	„ „	0	3

		½″	¾″	1″	1½″	2″	4″
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	„	1/8	2/2	2/7	3/10	—	—
Do. soil	„	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	„	1/2	1/8	2/1	2/10	3/6	—
Read lead joints	„	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	„	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	„	—	—	—	14/7	19/6	—
Bib cocks and joints	„	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	„	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	6
Do. Do. Sirapite	„ „	2	9
Do. Do. Keen's	„ „	4	0
Add saw lathing	„ „	1	7
Add metal lathing	„ „	2	6
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	„ „	2	2
Do. plain face	„ „	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	„ „	1	0
Obscured sheet	„	1	1
⅛-in. rolled plate	„ „	0	9
¼-in. rough rolled or cast plate	„ „	0	10½
¼-in. wired cast plate	„ „	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	„ „	0	7
Plain painting, 1 coat	„ „	0	9
Do. 2 coats	„ „	1	2
Do. 3 coats	„ „	1	9
Do. 4 coats	„ „	2	4
Graining	„ „	2	3
Varnishing twice	„ „	1	9
Sizing	„ „	0	3
Flatting	„ „	0	7
Enamel	„ „	1	1
Wax polishing	per foot sup.	0	6
French polishing	„ „	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS

New Sports Ground.

A new sports ground has been acquired at Osterley, Middlesex, for the employees of the Red Triangle Cement organisation.

Changes of Address.

On and after December 28, Messrs. Huntley and Sparks's, Ltd., address will be De Burgh-road, South Wimbledon, S.W.19. Telephone: Wimbledon 3076. The firm thus combines, at one address, offices, warehouse and works.

Mr. J. P. Walshe, builders' merchant and quarry agent, has now moved to Tooting Junction Goods Depot, Southern Railway, Tooting, London, S.W.17. Tel.: Mitcham 4106.

Messrs. Lole & Co., Ltd., builders, contractors, and decorators, are to remove (from December 24) to Laurel Works, 45, Garratt-lane, Wandsworth, S.W.18.

The Regal Cinema, W.

We are informed that the automatic sprinklers and chemical fire extinguishers installed in this new cinema—illustrated in our issue for December 7—were supplied by the Clarke and Vigilant Sprinklers, Ltd., of Atkinson-street, Deansgate, Manchester.

Channing House School.

We learn that the slates on the roof of the Channing House School, Highgate, are old Delabole grey-green randoms. The slating was done by Messrs. J. J. Etridge, Junr., Ltd., of Bethnal Green, E. This slate is also being used on the new Isolation Hospital, Hendon, under the Hendon U.D.C. Surveyor, Mr. A. O. Knight.

An African Foundry.

We learn that Messrs. E. G. Dowse & Co. have purchased a 17-acre site at East London, South Africa, and intend to establish a large foundry and general engineering works. As purchasing agents on this side for Messrs. Dowse, Messrs. Cutbill, King & Co., Ltd., of 32, St. Mary Axe, E.C.3, will be pleased to receive catalogues from manufacturers of foundry plant, machinery, equipment, etc., which will be forwarded to South Africa for consideration.

British Industries Fair, Birmingham.

The Heavy Section of the British Industries Fair will be held at Birmingham from February 18 to March 1. The Schedule of British goods displayed exclusively in Birmingham includes:—Engineering, electricity, gas, power plant, machinery, heating and cooking, hardware, ironmongery, brass-foundry, metals, building, public works, roads, mining, and transport, besides all allied industries. Full information may be obtained from Mr. Charles Stanley, General Manager, 95, New-street, Birmingham.

Centenary Dinner.

Messrs. John Thompson, Ltd., of Wolverhampton and Kingsway, London, W.C.2, celebrated the centenary of the firm by holding a dinner at the Hotel Cecil on December 12. Mr. James Thompson, chairman of the company, presided over some 300 guests. The name of John Thompson also includes the Water Tube Boiler Co., Motor Pressings Co., Boiler and Engineering Co., Kennicott Softener Co., Beacon Windows, Ltd., all of Wolverhampton, and the John Thompson Structural Engineering Co., at Dudley. The firm of John Thompson was founded 100 years ago by the grandfather of the present governing directors, and the staff and workpeople number 2,000, while the works and land total some 35 acres. The company has during the last four years made rapid progress in the manufacture of steel window frames, for which many have been supplied to various public buildings and offices.

TENDERS

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

Billericay.—Sewer in Victoria-street, for the South Weald and Shenfield Special Drainage Committee of the R.D.C. Messrs. Wilcox & Raikes, Chartered Civil Engineers, 33, Great Charles-street, Birmingham:—

General Contracting & Engineering Co., London	£1,284 6 9
Crawford Brothers, Moreton	1,276 1 10
W. & C. French, Buckhurst Hill	1,067 17 4
*Hodges & Porter, Holborn, W.C.1	1,030 0 0

Bradford.—Erection of the Thornton Baths, for the Corporation. Mr. W. Williamson, F.R.I.B.A., City Architect:—

Masons and Bricklayers—
*Eph Balmforth & Sons, Ltd., Queensbury £5,974 10 0
Plasterers and Concreters—
*F. Mudd & Son, Thornton 3,740 0 0
Carpenter and Joiner—
*A. Bairstow, Thornton 2,068 0 0
Plumber and Glazier—
*S. Rushworth, Shipley 1,799 0 0
Steelwork—
*Lambhill Ironworks, Ltd., Glasgow 667 8 8
Roof Tiler—
*J. Kellett, Morley 269 0 0

Bradford.—Painting the McMillan school, for the E.C.:—
*E. Gornall, Lidgett Green £150

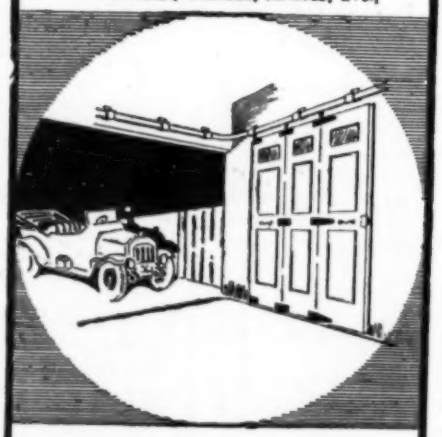
Bradford.—Alterations to conveniences at (1) Great Horton school, and (2) Princeville school, for the E.C.:—
*Moore & Wright, Clayton £423

Bradford.—240 houses on the White Abbey area, for the Corporation. Mr. W. Williamson, F.R.I.B.A., City Architect:—
*W. J. & H. Turnbull, Leeds £63,141 4

Braithwaite.—Open-air school. Mr. A. P. Harrison, L.R.I.B.A., architect, High-close, Keighley. Quantities by Messrs. Hope, of Derby:—
Masons, etc., work—
*H. J. Raistrick, Keighley.
Joiner's work—
*I. Laycock, Keighley.
Plumbers' work—
*L. & J. Harrison, Keighley.
Painters' work—
*F. Crossley, Keighley.
Plasterers' work—
*Birch & Son, Cullingworth, Keighley.
Slater's work—
*Fred Wood, Bradford.

Burnley.—Rebuilding of St. Matthew's Church, for the trustees. Messrs. Austin & Paley, A.R.I.B.A., architects, 24, Castle-park, Lancaster:—
*A. O. Thoms, Lancaster £13,832

"HENDERSON"
SLIDING DOOR GEAR
FOR FACTORIES, GARAGES, SCHOOLS, ETC.



"TANGENT JUNIOR" FOR LIGHT DOORS
"TANGENT SENIOR" FOR HEAVY DOORS.
WRITE FOR BOUND CATALOGUE B.26 TO-
P.C.HENDERSON, LIMITED.
TANGENT WORKS, BARKING, ESSEX.

Burton-upon-Trent.—Nurses' home at the Poor Law Institution, Belvedere-road, for the B.G. Mr. R. S. Litherland, L.R.I.B.A., architect and surveyor, 10, High-street, Burton-on-Trent. Quantities by the architect:—

Wm. Sharp & Sons, Barton-u.-Needwood	£12,280
J. & J. Warner, Mickleover, nr. Derby	12,022
H. Edwards, Ltd., Burton-on-Trent	11,888
R. Kershaw & Sons, Burton-on-Trent	11,854
A. Holmes & Son, Burton-on-Trent	11,395
G. Hodges & Sons, Burton-on-Trent	11,380
Worthington & Willson, Burton-on-Trent	10,988
Beddoes & O'Dair, Tean, Staffs	10,965
G. H. Adams, Burton-on-Trent	10,774
Blythe & Sons, Mansfield	10,500
‡T. Lowe & Sons, Burton-on-Trent	10,491

Cardiff.—Sewerage.—700 lin. yds. of 21-in. dia. concrete pipe sewer off Newport-road, near electric power station, for the T.C. Mr. G. H. Whitaker, City Engineer and Surveyor. Quantities by the City Engineer and Surveyor:—
*Maberly Parker, Cardiff £1,837 8 4

Cleckheaton.—Alterations and additions to the South Parade Council Mixed School, for the Spenborough E.C. Messrs. R. Castle & Son, L.R.I.B.A., architects, Midland Bank-chambers:—

Masons—
*G Horsfall & Son, Leeds.
Carpenters and Joiners—
*Beaumont & Smith, Ltd., Gomersall.
Plumber—
*H. H. Bentley, Cleckheaton.
Plasterers and Concreters—
*Sellers Bros., Cleckheaton.
Slaterers—
*Jonas M. Thornton's Sons, Heckmondwike.
Electric light—
*F. W. Birkett & Sons, Ltd., Cleckheaton.
Windows and fittings—
*W. James & Co., Ltd., London.
Iron gates and railings—
*B. Tordoff & Son, Liversedge.
Tar paviers—
*Geo. Greenwood & Sons, Halifax.
Painters—
*F. Akers & Sons, Cleckheaton.
Heating—
*Craig & Mills, Ltd., Manchester.

Congleton. — Reservoirs, for the Corporation waterworks. Mr. W. H. Duncan Arthur, Borough Surveyor:—

T. G. Huxley & Co., Chester	£21,105
Bierrum & Partners, London	19,210
L. J. Speight, Ltd., London	18,930
Reinforced Concrete Cont. Co., Manchester	18,862
G. Percy Trentham, Ltd., Birmingham	18,792
Williams, Tarr & Co., Warrington	18,690
J. G. Gray, Coventry	17,977
Wilson & Co. (Newcastle), Ltd.	17,936
Fram R. C. Co., Manchester	17,715
Davey & Co., Runcorn	17,374
Lotz & Kier, Stoke	16,988
J. Byrom & Co., Bury	16,110
A. E. Farr, Westminster	15,905
W. H. Brocklesby, Birkenhead	15,795
Ferro Concrete Constr. Co., Derby	15,034
P. Henry, Stockport	14,982
Johnson's R. C. Co., London	14,860
Hall & Busfield, Leeds	14,739
Bolton & Lakin, Birmingham	14,600
*F. Whittaker, Leeds	14,397

Coulsdon and Purley.—Refuse destructor, for the U.D.C.:—

Woodall, Duckham & Co., Ltd.	£38,350
Manlove, Elliott & Co., Ltd.	22,801
‡Heenan & Froude, Ltd.	21,460
Mortimore, Ltd	20,675
Dawson & Manfield	20,540
Meldrums, Ltd.	18,350
New Destructor Co., Ltd.	16,795

Croydon.—Alterations to front of premises belonging to Messrs. Woolf Bros., Ltd., North End, for the C.B. Mr. E. Bates, architect:—
*E. H. Smith, Croydon £5,275

Edinburgh.—Wrought-iron fencing and wire netting around loch at Lochend-park, for the T.C. Mr. E. J. MacRae, A.R.I.B.A., City Architect:—
*Wm. Gratrix & Sons, Ltd., Manchester £467 12 6

Edinburgh.—Reconstruction of 36, 42, Candlemaker-row, for the T.C. Mr. E. J. MacRae, A.R.I.B.A., City Architect:—

Mason—
*Melrose & Thomson £534 19 6
Joiner—
*John Pottinger & Son 1,139 0 0
Plumber—
*Wm. Nicol & Sons, Ltd. 266 0 0
Plaster—
*Scott & Davie 309 0 0
Slater—
*Wm. McLean 113 17 2
Painter—
*P. & J. Gordon, Middlefield ... 91 18 11
(All of Edinburgh.)

London.—Conversion of cubicles into rooms, at the South-Western Hospital, for the M.A.B.:—
*R. Mansell £455
(Not £544, as stated in our last issue.)

Exeter.—Widening and improvement of Commercial-road, and the construction of public conveniences, for the T.C. Mr. T. Moulding, City Engineer and Surveyor. Quantities by the City Engineer and Surveyor, Exeter:—

Stephens & Stephens, Exeter	£8,133	0
E. D. Winn & Co., Ltd., London	8,049	17
E. C. Lea & Co., Ltd., Exeter	7,774	6
Coles Bros., Ltd., Bath	7,689	4
W. H. Coleman & Co., Longdown	7,209	19
Edwin Harris & Son, Clyst Hydon	7,029	16
Ham & Passmore, Exeter	6,974	0
The Durnford Construction Co., Ltd., London	6,758	8
H. Dart, Son & Partners, The Bartons, Dawlish	6,499	12
*Clifford Steer, Plymouth	6,346	17

Hendon.—House in Hocroft-avenue, for Mr. J. Meek. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 44, Chancery-lane, W.C.2:—

*G. N. Watts, Ltd. £1,647

Herne Bay.—Restoration of cinema at Herne Bay, for Mr. A. G. Iggulden, J.P., Herne Bay. Mr. J. Roland Huxtable, architect and surveyor, Station-road Estate Offices:—

G. Browning, Canterbury	£5,390
C. W. Welby, Herne Bay	4,934
E. D. Winn & Co., Ltd., London	4,899
J. B. Sharman, Ltd., Ramsgate	4,872
E. J. Line, Herne Bay	4,300
Operative Builders, Birchington	4,000
*C. H. H. Kenworthy, Herne Bay	3,998

Horbury.—Public convenience in High-street, for the U.D.C.:—

Builders—
*H. Fallas & Sons.
Joiner—
*J. Dyson.
Concreter—
*R. H. Lockwood.
Plumber—
*T. W. Clarke.
(All of Horbury.)

Kenton.—Two houses in Woodcock Hill-lane, for Messrs. Cray & Brown. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 44, Chancery-lane, W.C.2:—

*Geo. H. Gillett & Co., Ltd. £2,270

Kingston.—Electric Lighting at the Central Children's Homes, New Malden, for the B.G.:—

*R. Langston-Jones & Co., Teddington £458 17 6

Leatherhead.—Petrol filling station and roads, for Messrs. G. Sandford & Son. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 44, Chancery-lane, W.C.2:—

*R. L. Coombs £2,384

Liverpool.—New Central Council school at Evered-avenue, Fazakerley, for the T.C. Mr. A. D. Jenkins, Land Steward and Surveyor. Quantities by Messrs. Harris & Pople, 323, Royal Liver-buildings:—

*J. Williams (Liverpool), Ltd., Liverpool.

Liverpool.—Electric sub-station in Lime-grove, Seaforth, for the Corporation:—

*J. Williams (Liverpool), Ltd., Liverpool.

Llanelly.—New classroom and cloakroom at Felinfoel Council school, for the Carmarthen C.C. Mr. W. Vincent Morgan, A.R.I.B.A., County Architect:—

Mercer & Sons, Ltd., Llanelly	£705
B. Howell & Son, Ltd., Llanelly	695
*T. Hughes, Llanelly	672

London.—Sundry work at the Northumberland Rooms, Grand-buildings, Trafalgar-square, for the Northumberland Rooms, Ltd:—

Heating and Ventilating—

*John Blaikie & Son, Ltd.	£674	0	0
Electrical work—			
*Pinching & Walton	540	7	6
Oak flooring—			
*Hollis Bros & Co., Ltd.	145	10	0

London.—External painting and other works to the houses converted into flats, at 39, 41, 43 and 45, Spencer-park; 64, The Chase; 5, Macaulay-road, 24 and 26, Macaulay-road:—

*W. Withers & Son, Ltd. £319 5

London.—Alterations and additions at 60-62, High-road, Kilburn, for Messrs. Shirley Brothers. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 44, Chancery-lane, W.C.2:—

Bovis, Ltd.	£1,537
F. Hilborn & Sons	1,531
G. N. Watts, Ltd.	1,389
F. Troy & Co., Ltd.	1,367
*Robertson & Cameron	1,284

Londonderry.—Redecoration of certain rooms in the County Courthouse in Bishop-street, for the C.C. Mr. J. A. Moore, County Surveyor:—

J. & D. Baxter, Coleraine	£515	4	11
J. Thompson & Son, Londonderry	470	13	0
*A. D. Sutherland, Coleraine	432	18	9

Lowestoft.—Six blocks of 2 non-parlour type houses on the Kirkley-gardens housing site, for the T.C. Mr. S. W. Mobbs, A.R.I.B.A., Borough Surveyor:—

Lawes, Cherry & Co.—London	£5,640
Mobbs Bros., Ltd., Lowestoft	5,364
*J. R. Gaze, Lowestoft	5,056

Manchester.—New buildings in Lower Mosley-st., for the North Western Motor Omnibus Co., Ltd., of Stockport. Col. George Westcott, architect, 13, Bridge-street:—

*W. Thorpe & Son.
Masons—
*J. & E. Moores.
Asphalters—
*Limmer & Trinidad Lake Asphalte Co., Ltd.
Slaters—
*F. Brown & Son.
Plumbers—
*A. Longworth & Son.
Painters and Plasterers—
*J. Gibbons & Sons, Ltd.
(All of Manchester.)

Manchester.—Extensions to the Xaverian College in Victoria-park, for the Governors. Messrs. Foden, Hemm & Williams, architects, 199, Deansgate. Quantities by Mr. T. Sumner Smith, F.S.I., Victoria-park:—

*T. Campion & Sons.
Joiners—
*Tinker & Young, Ltd.
Painter—
*C. Bell.
Slaters—
*Huntingdon's, Ltd.
Plasterers—
*A. & S. Wallace.
Plumbers—
*T. Ballantyne & Co.
(All of Manchester.)

Manchester.—Conversion of offices into bedrooms for commercial travellers and bachelors' quarters, for the Millgate Buildings, Ltd., 17, Long Millgate, Messrs. Silk, Wilson & Sons, architects, Tib-lane:—

*J. H. Johnson, Manchester.

Manchester.—Additions to the works at Clapham-street, Moston, for Messrs. Richard Johnson, Clapham & Morris, Ltd., 24, Lever-street. Mr. P. Barker, F.R.I.B.A., architect, 32, King-street West:—

*L. Fairclough, Ltd., Adlington.

Manchester.—Conversion of premises at 49, Piccadilly, for shops and showrooms, for Messrs. Montague Burton, Ltd., Hunslett Mills, Leeds. Mr. H. Wilson, architect, North-lane, Roundhay, Leeds:—

*Tinker & Young, Ltd.
Bricklayers—
*J. H. Godfrey & Co.
Steelwork—
*Redpath Brown & Co., Ltd.
Plumbers—
*A. Longworth & Sons.
(All of Manchester.)

Manchester.—16 houses on Scotland Hall-road and Rosebank-road, Newton Heath, for Manchester Housing (1926), Ltd., Brown-street. Messrs. Hallidays & Agate, A. & L.R.I.B.A., architects, 14, John Dalton-street:—

*J. Gerrard & Sons, Ltd., Manchester.

Manchester.—Additions to the "Don Cinema," Beswick-street, Ancoats, for the Circuit Cinemas, Ltd. Messrs. R. J. McBeath & Sons, F.R.I.B.A., architects, Birnam House, Sale:—

*A. Ashworth, Ancoats.

Manchester.—Reinstatement of the premises recently damaged by fire, for Messrs. Lafayette, Ltd., 96, Deansgate. Messrs. Matley Brotherton & Mills, architects, 11a, Old Millgate, Market-place:—

*S. Megarity & Co.
Steelwork—
*Robinson & Kershaw, Ltd.
Slating—
*The Manchester Stone & Slate Co., Ltd.
(All of Manchester.)

Manchester.—Alterations to premises, 37, Withy-grove, for Withy-grove Stores, Ltd.:—

*S. Megarity & Co., Manchester.

Manchester.—Alterations to premises, Boundary-street, Gorton, for the Pleasure and Commercial Motors, Ltd.:—

*W. Lancaster & Co., Hulme.

Manchester.—Extensions to the bank premises at 15 and 17, Stretford-road and Upper Wilmot-street, Hulme, for National Provincial Bank, Ltd., Mr. F. C. R. Palmer, architect, National Provincial Bank Co., Ltd., London, E.C.3:—

*Hall Construction Co., Ltd., Salford.

Nottingham.—21 houses in Squires-avenue, Bulwell, for the T.C. Mr. T. C. Howitt, architect and surveyor, 58-59, Long-row, Nottingham:—

*W. T. Norris & Sons, Nottingham.
(Subject to approval of M.H.)

Pinner.—Five houses on the West End Farm estate, Pinner, for the Home Guarantee Corporation, Ltd. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 44, Chancery-lane, W.C.2:—

F. & C. Costin	£7,625
Perry Brothers	6,670
G. N. Watts, Ltd.	6,501
J. W. Buckingham	6,380
*A. V. Low	6,210

Pinner.—Two houses on the West End Farm estate, Pinner, for the Home Guarantee Corporation, Ltd. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 44, Chancery-lane, W.C.2:—

*A. V. Low £2,487

Plymouth.—Patent glazing roof of the old portion of the Milehouse Depot, for the C.B.:—

*Mellowes Patent Glazing Co., Ltd.

Plymouth.—Convenience for men at Phœnix-street, for the T.C.:—

*Wakeham Bros., Ltd. £1,385

Plymouth.—Extension of the Tinside bathing houses, for the T.C.:—

*J. W. Spencer £15,954

Portsmouth.—Infants section, etc., at the school, Portsdown, for the Portsmouth E.C.:—

Cortis & Hankin, Drayton	£10,475
M. Jones	10,450
Playfair Toole, Ltd., Southampton	9,989
T. Conwey, Weymouth	9,877
W. Feben & Sons	9,778
F. Bevis, Ltd., Portsmouth	9,682
E. & A. Sprigings, Portsmouth	9,577
G. J. Davis & Sons, Southsea	9,540
Tanner Bros., Southsea	9,482
Howe & Bishop, Southsea	9,443
John Lay & Co., Portsmouth	9,298
G. E. Sutton	9,098
C. W. Poling	8,960
R. Corke, Ltd., Southsea	8,703
*Saml. Salter, Southsea	8,556

Portsmouth.—For pulling down and rebuilding the "Crown and Anchor," in Bishop-street, for the Portsmouth and Brighton United Breweries, Ltd. Messrs. A. E. Cogswell & Sons, architects and surveyors, Prudential-buildings:—

E. & A. Sprigings	£1,928
Croad, Ltd.	1,910
L. Hoad	1,839
*F. J. Privett	1,776

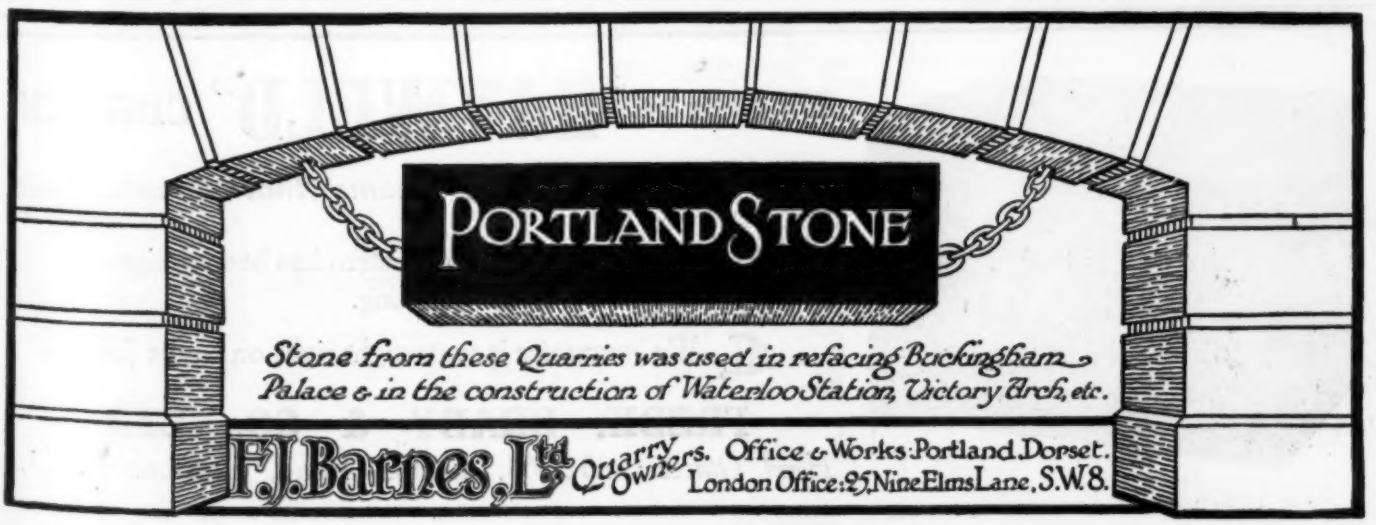
(All of Portsmouth.)

Preston.—Alterations and extensions to the Isolation Hospital, Deepdale, Preston, for the Corporation. Mr. W. Platt, Borough Engineer:—

*T. Croft & Sons, Ltd., Preston £4,110

Preston.—Fire station and house at Penwortham, for the R.D.C. Mr. John Miller, architect, 14, Chapel-street, surveyor:—

‡Wm. Beetham, Preston.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St. Monance.—For (1) construction of reinforced concrete surface on West Pier approximately 220 ft. by 28 ft. by 12 in. thick; and (2) repair of the causeway surface of West Pier, for the Harbour Commissioners. Messrs. A. C. Mackintosh & H. Watson, joint clerks, National Bank-buildings, Anstruther:—

*J. P. Thomson, St. Monance.

Salford.—Petrol station on a site known as "Mount Vernon," on Eccles New-road, Weaste, for Messrs. Watsons Storage (Preston), Ltd., Preston. Mr. H. L. Pollitt, architect, 7, Cromwell-road, Patricroft:—

*A. Taylor, Patricroft.

Sheffield.—Premises, for Messrs. Roberts Bros., Ltd., The Moor. Messrs. Chapman & Jenkinson, L. and A.R.I.B.A., architects, 18, Norfolk-row, Sheffield:—

*W. & A. Forsdike, Ltd., Sheffield.

Steelwork—

*T. W. Ward, Ltd., Sheffield.

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Skelton-in-Cleveland.—Church at North Skelton, for the Cleveland Parish Church. Mr. V. Pryke, architect, "The Firs," Boosbeck, Yorks:—

*B. W. Appleton, Skelton-in-Cleveland.

Southgate.—Wesleyan Church, for the Wesleyan Methodist Authorities. Messrs. A. Brocklehurst & Co., F.R.I.B.A., architects, 10, Norfolk-street, Manchester:—

*Newby Brothers, Southgate.

Stockport.—Garages at Adswood, for Stockport Industrial and Equitable Co-operative Society. Messrs. Wrathmell & Blackshaw, LL.R.I.B.A., architects, Queen's-buildings, St. Peter's-square:—

*Hibbert & Penn, Stockport.

Tamworth.—For (*a*) 56 non-parlour type; and (*b*) about 380 yards of roadway, consisting of tarmacadam carriageway and paths, grass verges, kerbing, etc., and about 1,400 feet of 9 in. and 6 in. stoneware sewers, together with manholes, gullies, etc., on the Leys site, for the T.C. Mr. A. Oswald Marshall, Borough Engineer and Surveyor:—

*Eadie, Towers & Co., Wolverhampton £18,112
(Tender for roads, etc., by this firm has been recommended.)

Tyldesley with Shakerley.—52 houses on Sale-lane site, for the U.D.C. Mr. F. E. Jones, engineer:—

*J. Chapman & Sons, Patricroft.

Uxbridge.—Lavatories, dressing sheds and shelters, at Rockingham Recreation Ground, for the U.D.C. Mr. L. Eves, F.R.I.B.A., 54, High-street:—

*Griffiths, Ltd., Sudbury £890

Wakefield.—Office garage and stores in Duke of York-street, for Messrs. Mosley & Hill. Mr. H. Hainsworth, architect:—

*H. Hainsworth, Wakefield.

Wisbech.—Factory at Wisbech, for the Wisbech Produce Canners, Ltd. Mr. F. Burdett Ward, L.R.I.B.A., chartered architect, 8, South Brink. Quantities by the architect:—

G. F. Hare & Co., Wisbech	£9,145 0 0
G. P. Trentham, Ltd., Birmingham	9,088 18 11
Elworthy & Co., Ltd., Wisbech	7,800 10 4
H. Rands & Son, Ltd., Wisbech	7,063 18 0
White & Holmes, Wisbech	7,500 0 0
R. Lewis, King's Lynn	6,683 6 9
*J. Eggitt & Sons, March	6,391 0 0
Steelwork—	
*J. Parks & Son, Northwich ...	1,560 0 0

Worksop.—Additions and extensions to Kilton-hill Infirmary, for the B.G. Mr. John S. Haslam, architect, Worksop:—

*G. Bowles & Sons, Worksop.

Wrexham.—For the (1) construction of a public convenience, Henblas-street, and (2) extension of shop in Butter-market, for the T.C. Mr. J. England, Borough Engineer:—

(1) *W. F. Humphreys, Ltd., Acrefair.
(2) *Miles Bros., Rhos, near Wrexham.

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